# IT Support to Transformation

**Joint Standing Committee Meeting 11-13 Jun**

**MAJ Ken Bautista**

***Interim Brigade Combat Team 5***

# U.S. Army Hawaii Transformation

**Increase of:**
**480 Soldiers**
**400 Vehicles**

**SOLDIER INCREASE STATISTICALLY ADDS:**

- **297 SPOUSES**
- **624 CHILDREN**
- **TOTAL INCREASE OF MILITARY POPULATION IS APPROXIMATELY 1,401 PEOPLE**

**MILITARY CONSTRUCTION**

- **RANGES**
- **ROADS**
- **TRAINING FACILITIES**

**ROUGHLY 32 PROJECTS**

**ESTIMATED $693.4M**

# Transformed Organization

**Current Legacy Light Infantry Brigade Combat Team**

- 3438 Officers and Enlisted
- 491 Light Wheeled Vehicles
- Current weapons
- Computers are only in

**Increase of:**
**480 Soldiers**
**400 Vehicles**

**Proposed Interim Brigade Combat Team**

- 3918 Officers and Enlisted
- 891 Wheeled Vehicles
- Only new weapon introduced is in fact a older weapon (105MM Cannon)
- Computers in each vehicle
- Internet

# Transformed Organization

**One Interim Brigade Combat Team**

- **Brigade Headquarters**
  - **3 Infantry Battalions**
  - **Reconnaissance, Surveillance & Target Acquisition Squadron**
  - **Field Artillery Battalion**
  - **Support Battalion**
  - **Anti-Tank Company**
  - **Military Intelligence Company**
  - **Engineer Company**
  - **Signal Company**
  - **Combat Service Support Company**

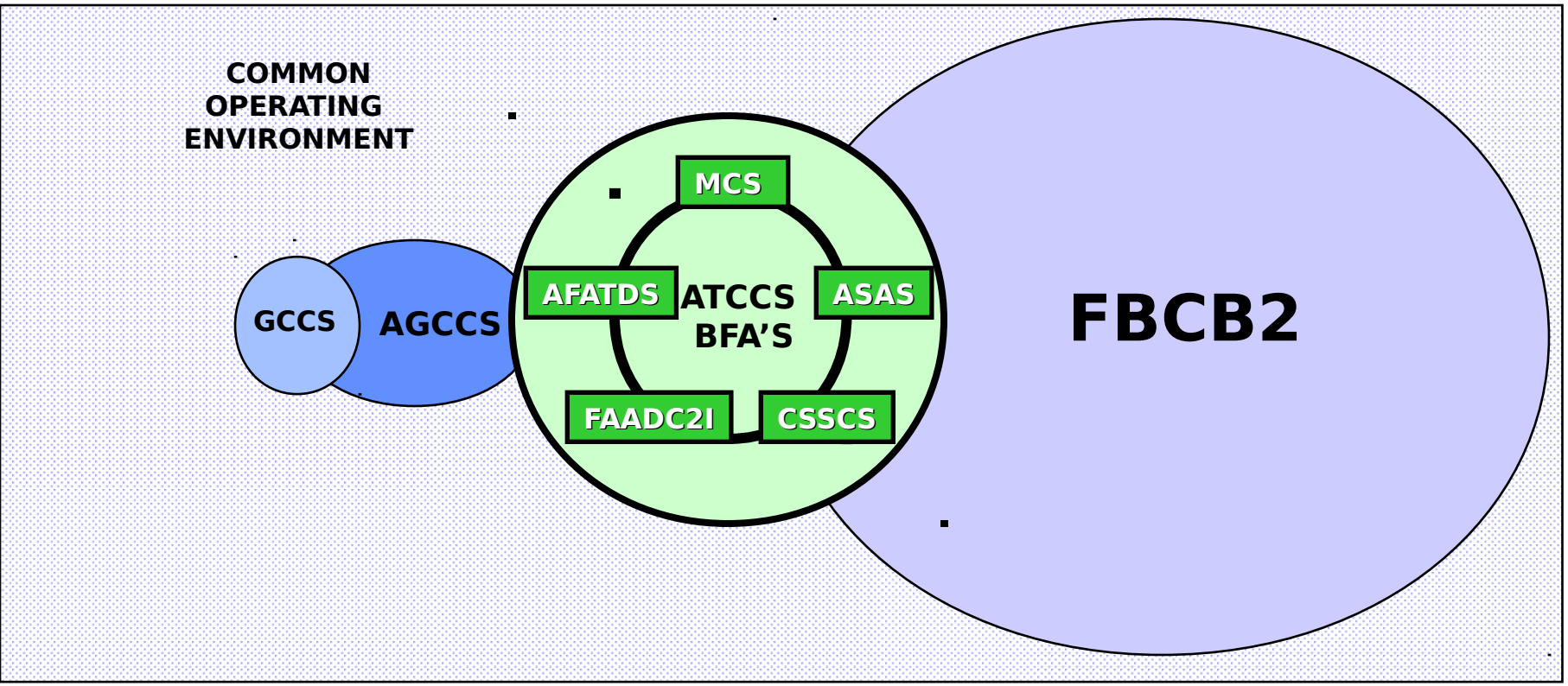
## Fighting Characteristics

- Full spectrum of military operations
- Decreased support requirements
- Decisive action from deliberate maneuver and dismounted infantry
- Force effectiveness in jungles, mountainous terrain, and urban areas
- Rapidly deployable
- Dispersed and decentralized operations
- Combat capable on arrival
- High tactical mobility on battlefield
- Precision internetted combined arms fighting

# IT Support to Transformation
# A Starting Point

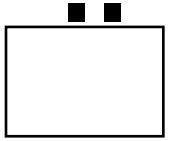
- **IT infrastructure must support Transformation; IBCT is the first step.**
- **3rd Brigade must be included in our planning process; budgeted outside the Transformation POM submission.**
- **Installation Information Infrastructure Architecture (I3A) extends the IT backbone to support user defined IBCT projects/construction.**
- **The Information Systems Facility (ISF) must support a Transforming 25th ID (L) Division and provide many of the functions provided by the Division Signal Battalion and the IBCT Signal Company.**
- **Fixed Tactical Internet (FTI) support garrison training of the IBCT without employing organic signal support assets.**

# FBCB2 IN A C2 PERSPECTIVE



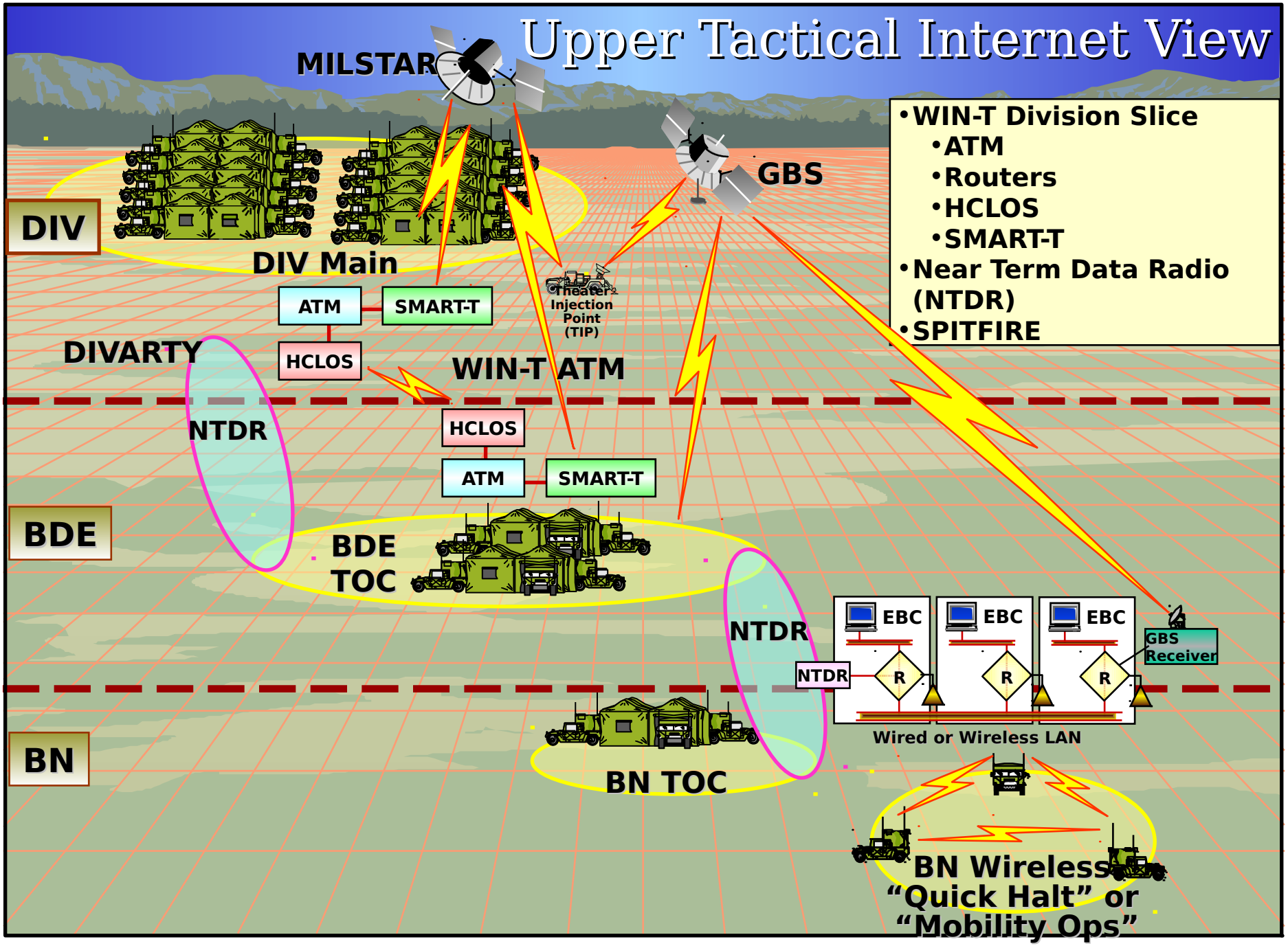

**ARMY BATTLE COMMAND SYSTEM**

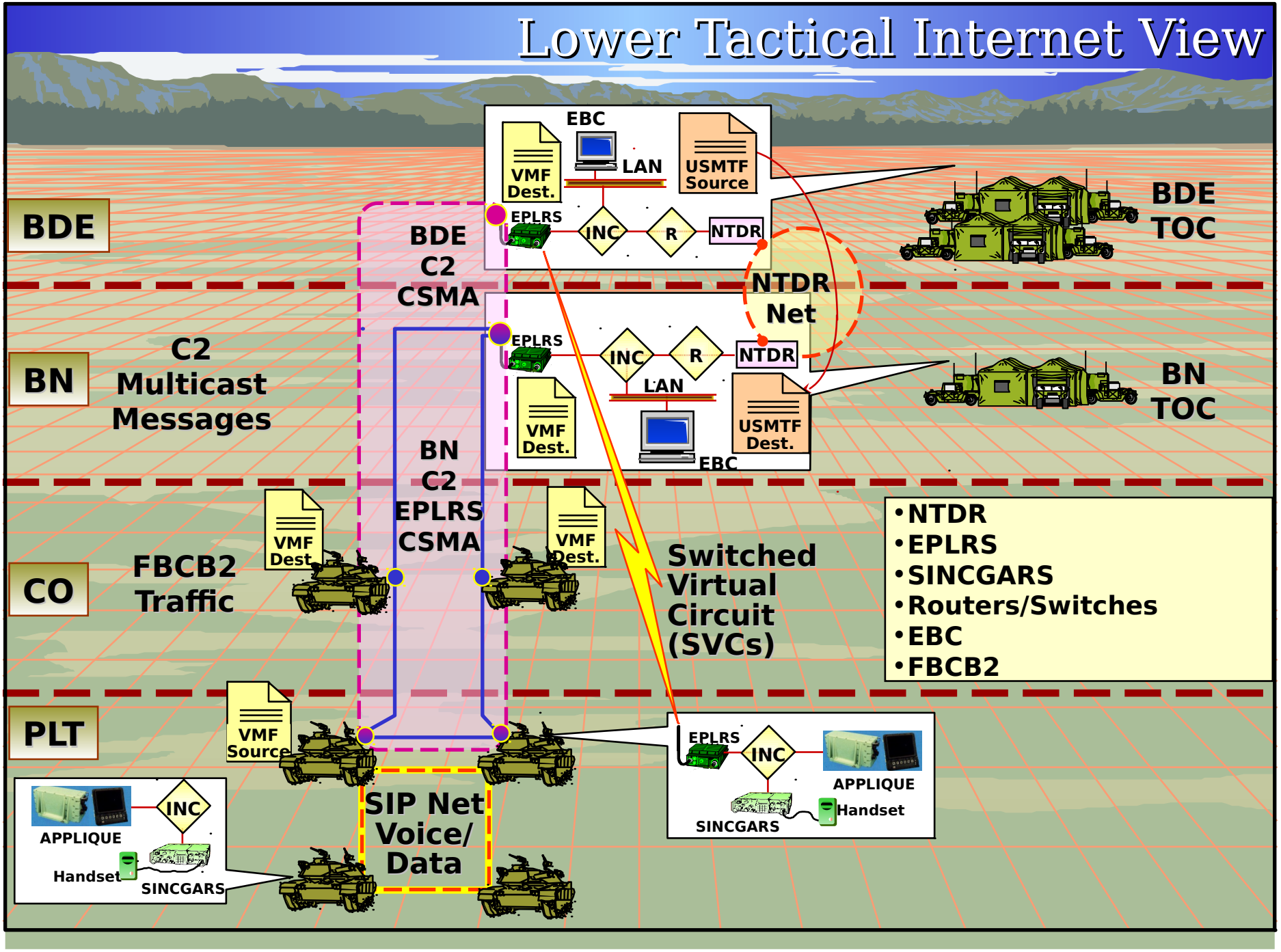
XXX



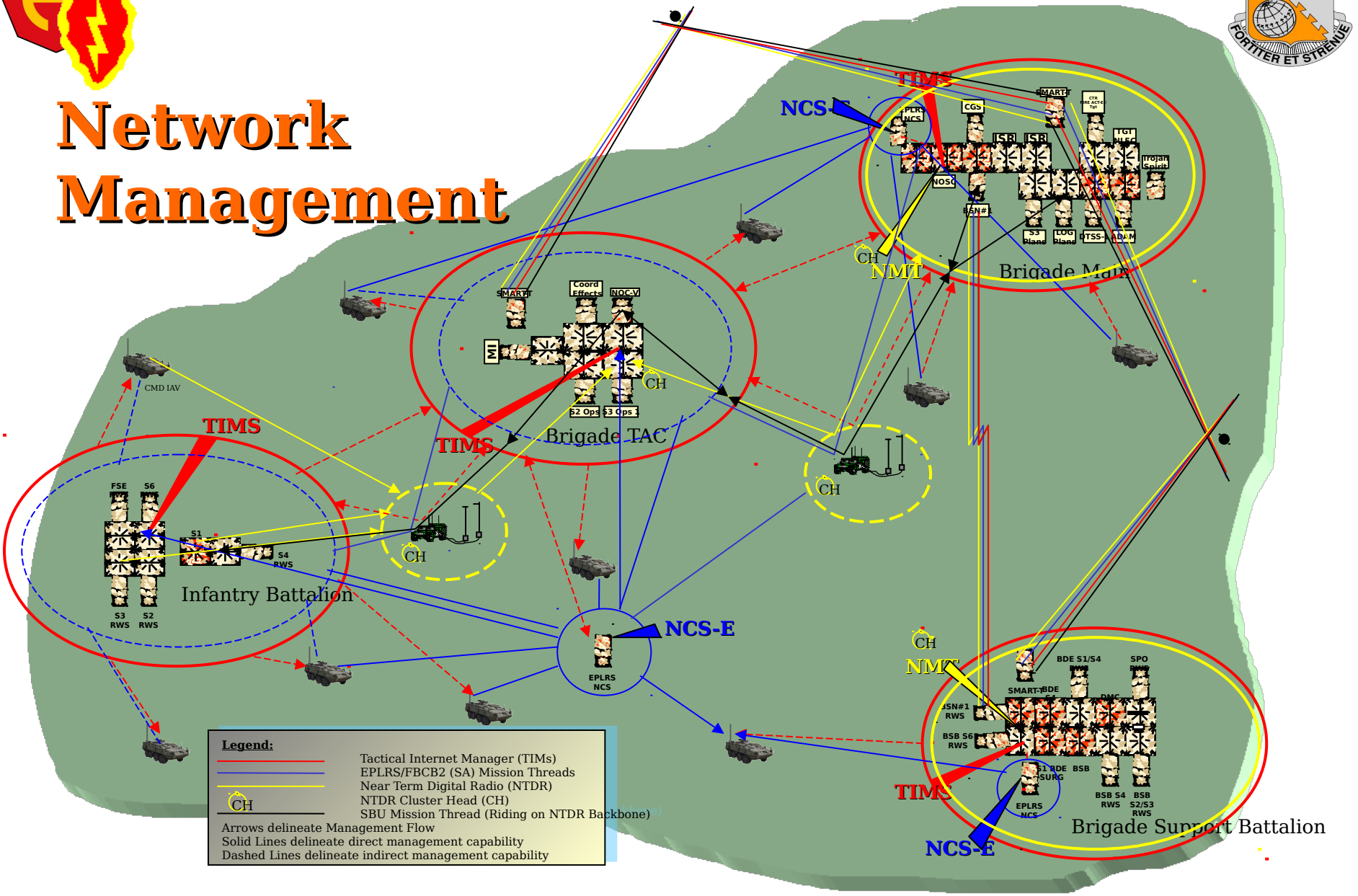
***SEAMLESS COMMUNICATION:***

***EAC TO FOXHOLE***


Upper Tactical Internet View
MILSTAR
GBS
•WIN-T Division Slice
•ATM
•Routers
•HCLOS
•SMART-T
•Near Term Data Radio (NTDR)
•SPITFIRE
DIV
DIV Main
ATM
SMART-T
HCLOS
Theater Injection Point (TIP)
DIVARTY
WIN-T ATM
NTDR
HCLOS
ATM
SMART-T
BDE
BDE TOC
NTDR
EBC
EBC
EBC
GBS Receiver
NTDR
R
R
R
Wired or Wireless LAN
BN
BN TOC
BN Wireless
"Quick Halt" or
"Mobility Ops"


Lower Tactical Internet View
BDE
BN
CO
PLT
EBC
VMF Dest.
LAN
USMTF Source
EPLRS
INC
R
NTDR
BDE TOC
BDE C2 CSMA
NTDR Net
C2 Multicast Messages
BN TOC
VMF Dest.
USMTF Dest.
EBC
BN C2 EPLRS CSMA
FBCB2 Traffic
VMF Dest
VMF Dest.
Switched Virtual Circuit (SVCs)
•NTDR
•EPLRS
•SINCGARS
•Routers/Switches
•EBC
•FBCB2
VMF Source
SIP Net Voice/ Data
APPLIQUE
Handset
SINCGARS

# Network Management



# Digital Division vs IBCT

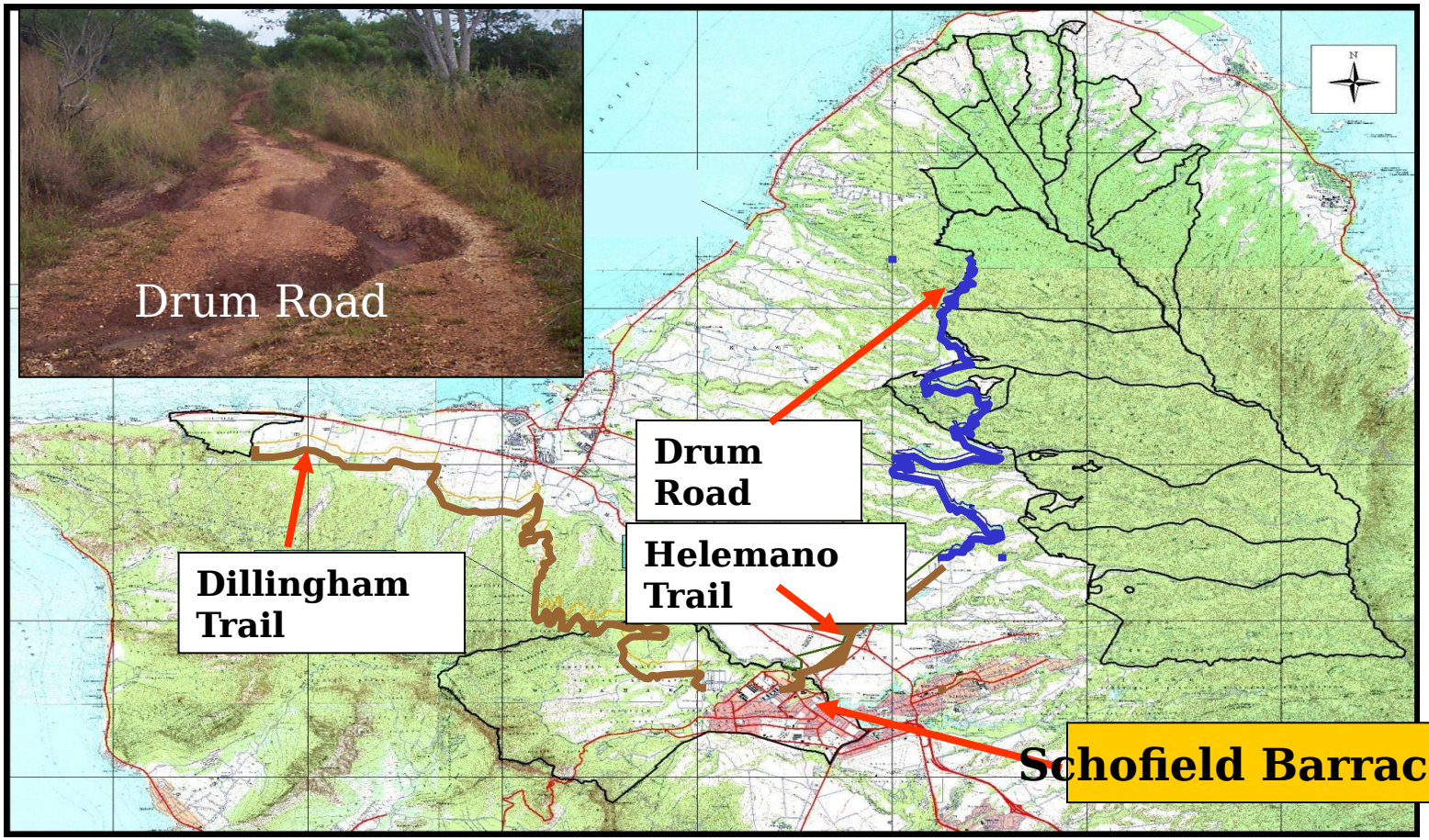
## Network/Host Devices

| | DIV | IBCT |
|---|---|---|
| • CISCO Routers (7206, 4700, 4500, 3640, 2514) | 212 | 91 |
| • CISCO Switches (5505, 3000, 2924, 2912) | 163 | 34 |
| • NTDR | 94 | 44 |
| • EPLRS | 1122 | 656 |
| • SINCGARS (ASIP) | 4631 | 1137 |
| • FBCB2 | 1745 | 636 |

**Analogous to fielding MSE to a Division**

# Projects Supporting Transformation

# PROPOSAL: EXPAND AND IMPROVE OAHU TRAINING AREA ACCESS ROADS




**SCOPE:**

**DILLINGHAM EASEMENT TRAIL:**

- **APPROXIMATELY 15 MILES**
- **ONE LANE, ALL WEATHER**

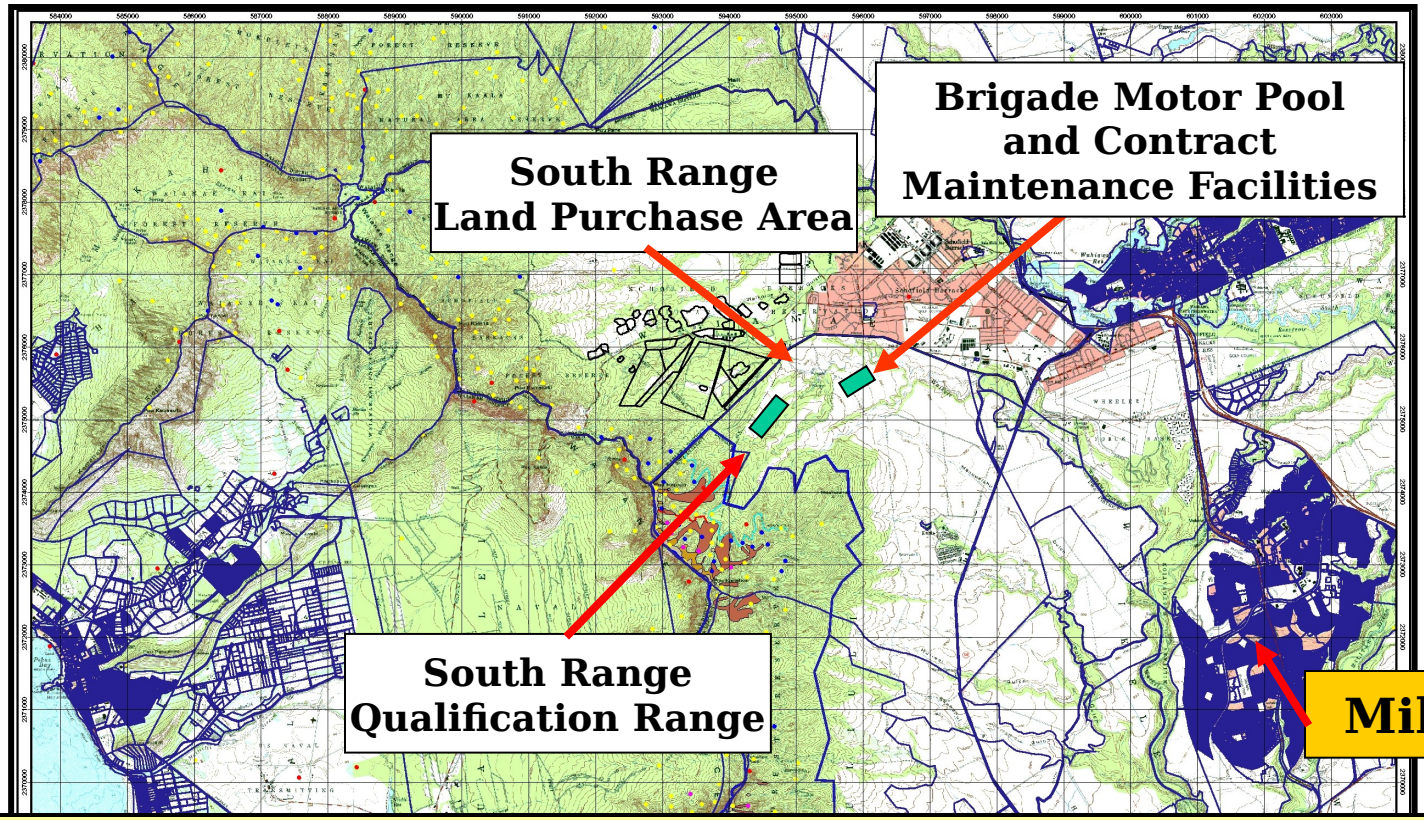
**DRUM ROAD:**

- **APPROXIMATELY 23 MILES**
- **TWO LANE ALL WEATHER ROAD**

**HELEMANO EASEMENT TRAIL:**

- **APPROXIMATELY 6 MILES**
- **ONE LANE, ALL WEATHER**

# PROPOSAL: SOUTH RANGE LAND PURCHASE FOR TRAINING AND DEVELOPMENT PROJECTS




**SCOPE:**

**SOUTH RANGE QUALIFICATION RANGE**

- **SMALL ARMS (RIFLE AND PISTOL) QUALIFICATION RANGE**

**BRIGADE MOTOR POOL:**

- **MAINTENANCE FACILITIES**
- **TACTICAL VEHICLE PARKING**
- **EQUIPMENT STORAGE FACILITIES**

# PROPOSAL: CONSTRUCT SCHOFIELD BARRACKS TRAINING FACILITIES

All These Facilities Are On Previously Developed Sites.

Range Control Facility

Schofield Barracks

Virtual Fighting Training Facility

Mission Support Training Facility

**SCOPE:**

**VIRTUAL FIGHTING TRAINING FACILITY:**

- **INDOOR VIRTUAL COMPUTER MARKSMANSHIP AND SQUAD TRAINING FACILITY**

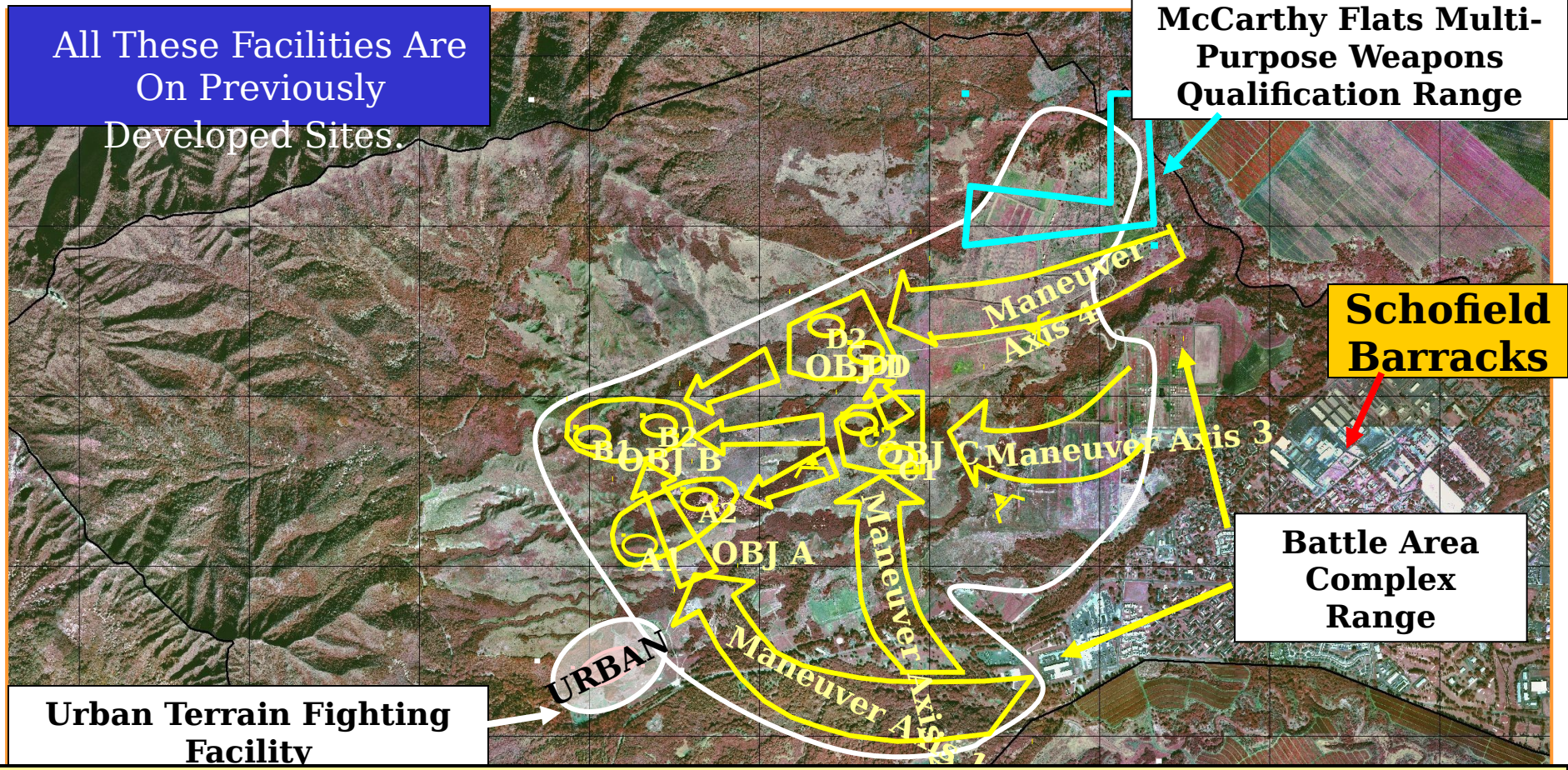
**RANGE CONTROL FACILITY:**

- **RANGE SCHEDULING AND OPERATIONAL CONTROL FACILITY FOR ALL RANGES IN ONE BUILDING**

**MISSION SUPPORT TRAINING FACILITY:**

- **SOLDIER, UNIT, AND STAFF DIGITAL, VIRTUAL, AND CONSTRUCTIVE TRAINING FACILITY**

# PROPOSAL: DEVELOP SCHOFIELD BARRACKS RANGE COMPLEX




**SCOPE (THREE SITES):**

**McCARTHY FLATS MULTIPURPOSE WEAPONS QUALIFICATION RANGE:**

- SMALL ARMS (RIFLE, PISTOL, MACHINE GUN AND SNIPER RIFLE)

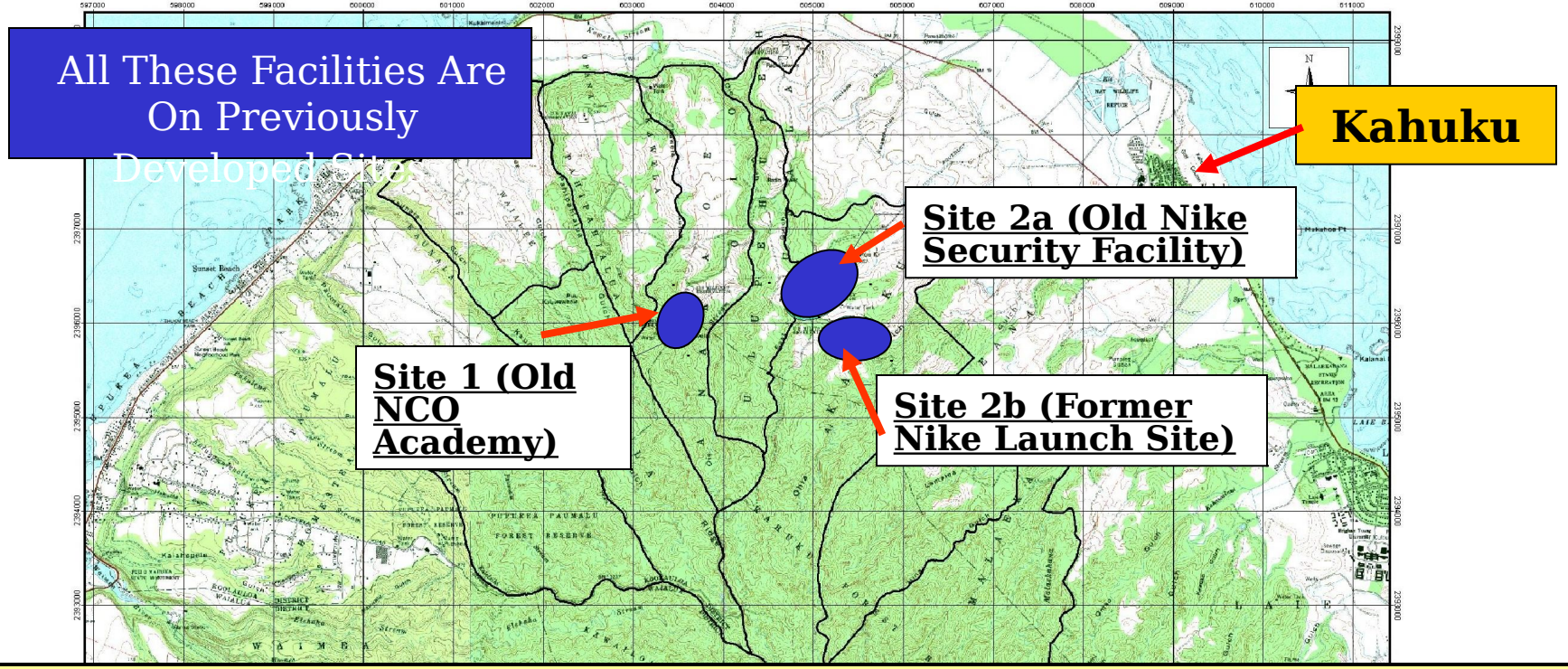
**BATTLE AREA COMPLEX RANGE:**

- COMPANY AND VEHICLE LIVE FIRE RANGE ALLOWS MULTIPLE TRAINING TASKS

**URBAN TERRAIN FIGHTING RANGE FACILITY (LIVE FIRE):**

- BREACH FACILITY
- URBAN ASSAULT COURSE
- SHOOT HOUSE

# PROPOSAL: DEVELOP KAHUKU URBAN TERRAIN NON LIVE FIRE TRAINING


All These Facilities Are On Previously Developed Site
Kahuku
Site 2a (Old Nike Security Facility)
Site 1 (Old NCO Academy)
Site 2b (Former Nike Launch Site)

**COPE (THREE SITES):**

**SITE 1:**

- **REPLICATES MILITARY COMPOUND**
- **RENOVATE SIX EXISTING BUILDINGS**
- **CHALLENGING HILLTOP LOCATION**
- **LANDSCAPING**

**SITE 2A:**

- **REPLICATES COMMERCIAL/INDUSTRIAL AREA**
- **RENOVATE TWO EXISTING BUILDINGS**
- **CONSTRUCT ELEVEN BUILDINGS**
- **SEWER SYSTEM LINKS KEY BUILDINGS**
- **LARGE GRASS AIRSTRIP**
- **LANDSCAPING**

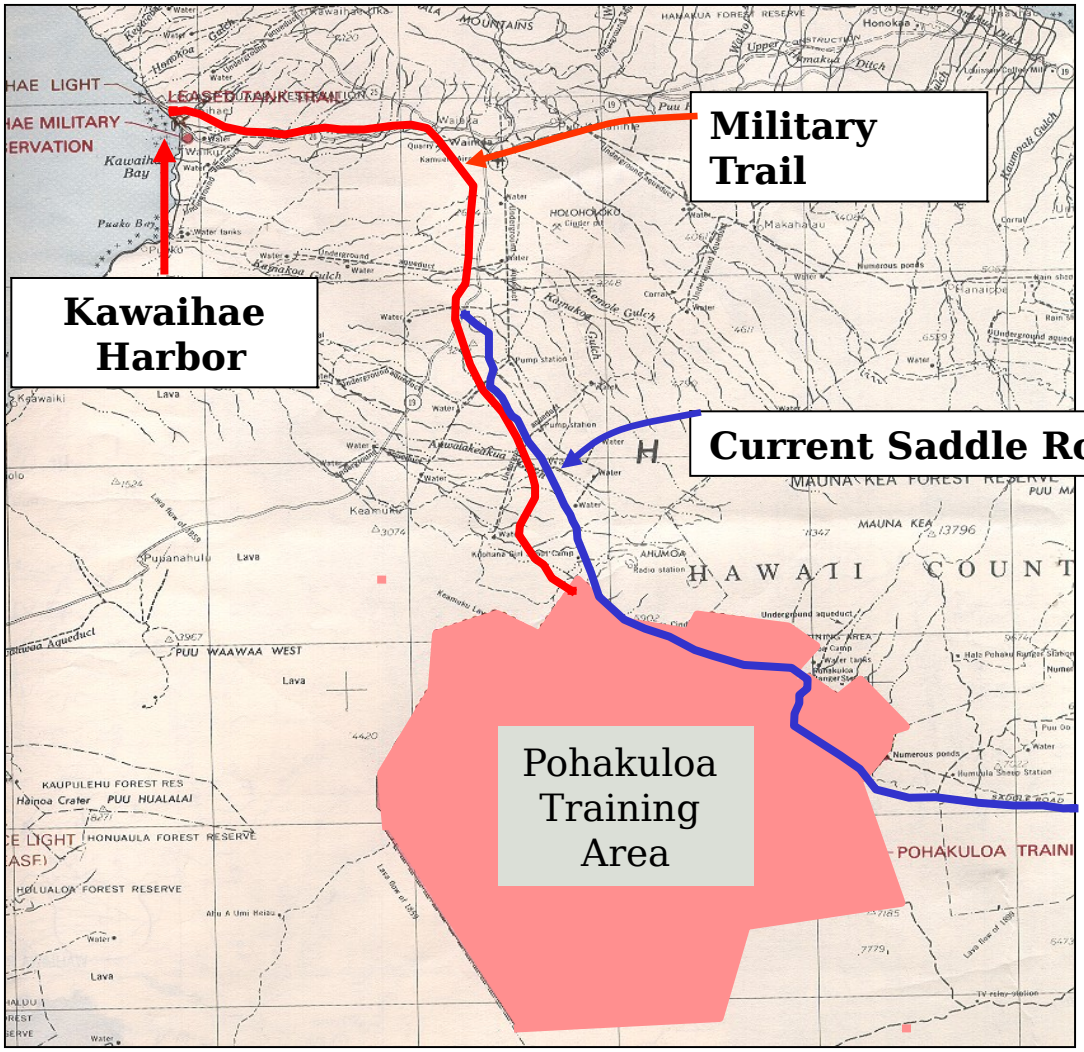
**SITE 2B:**

- **REPLICATES A PARK, MARKET, RE-CONFIGURABLE TOWN, AND RESIDENTIAL COMMUNITY**
- **RENOVATE TWO EXISTING BUILDINGS**
- **CONSTRUCT FIFTEEN BUILDINGS**
- **SEWER SYSTEM LINKS KEY BUILDINGS**
- **SANITIZED CEMENT FROM OLD LAUNCH SITES CREATES CITY DUMP**

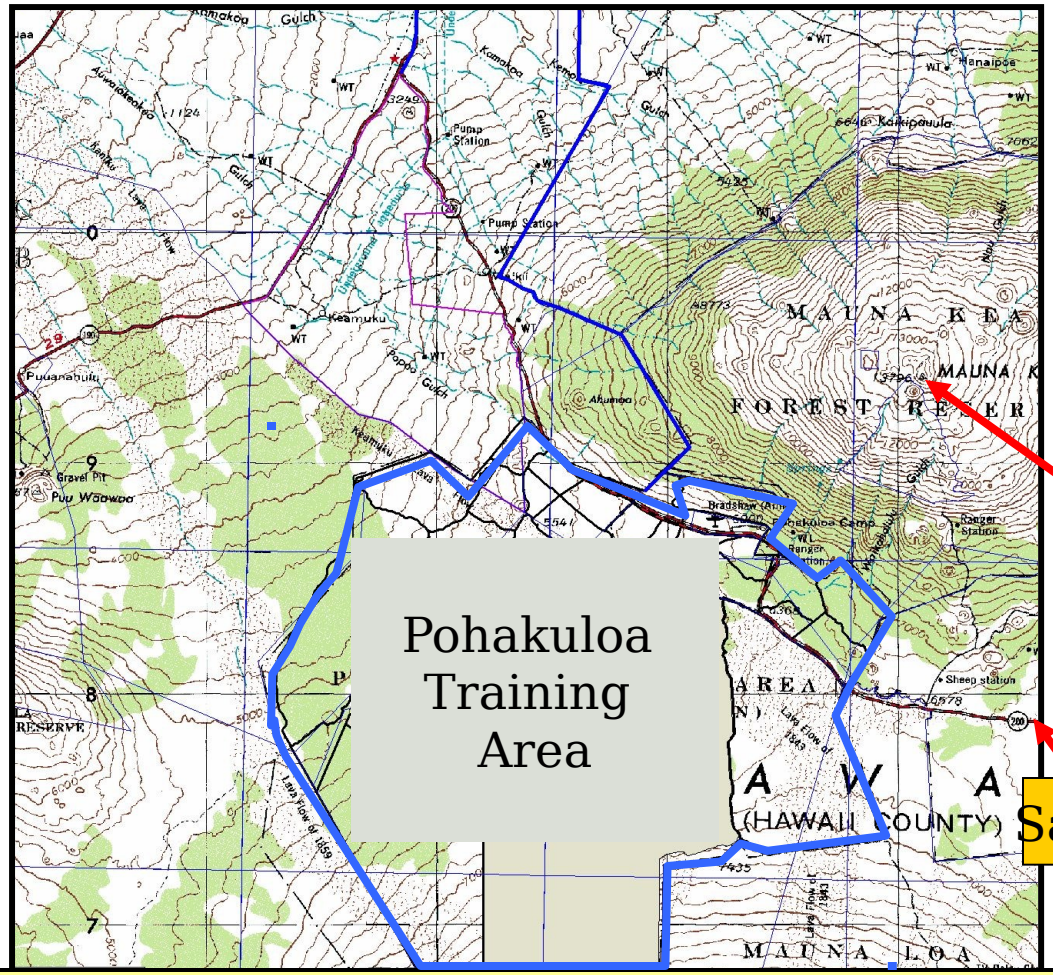
# PROPOSAL: RENOVATE MILITARY TRAIL KAWAIHAE HARBOR - POHAKULOA TRAINING AREA

**SCOPE:**

- **APPROXIMATELY 29 MILES**
- **ALL WEATHER ROAD**



# PROPOSAL: POHAKULOA LAND PURCHASE FOR MANEUVER TRAINING

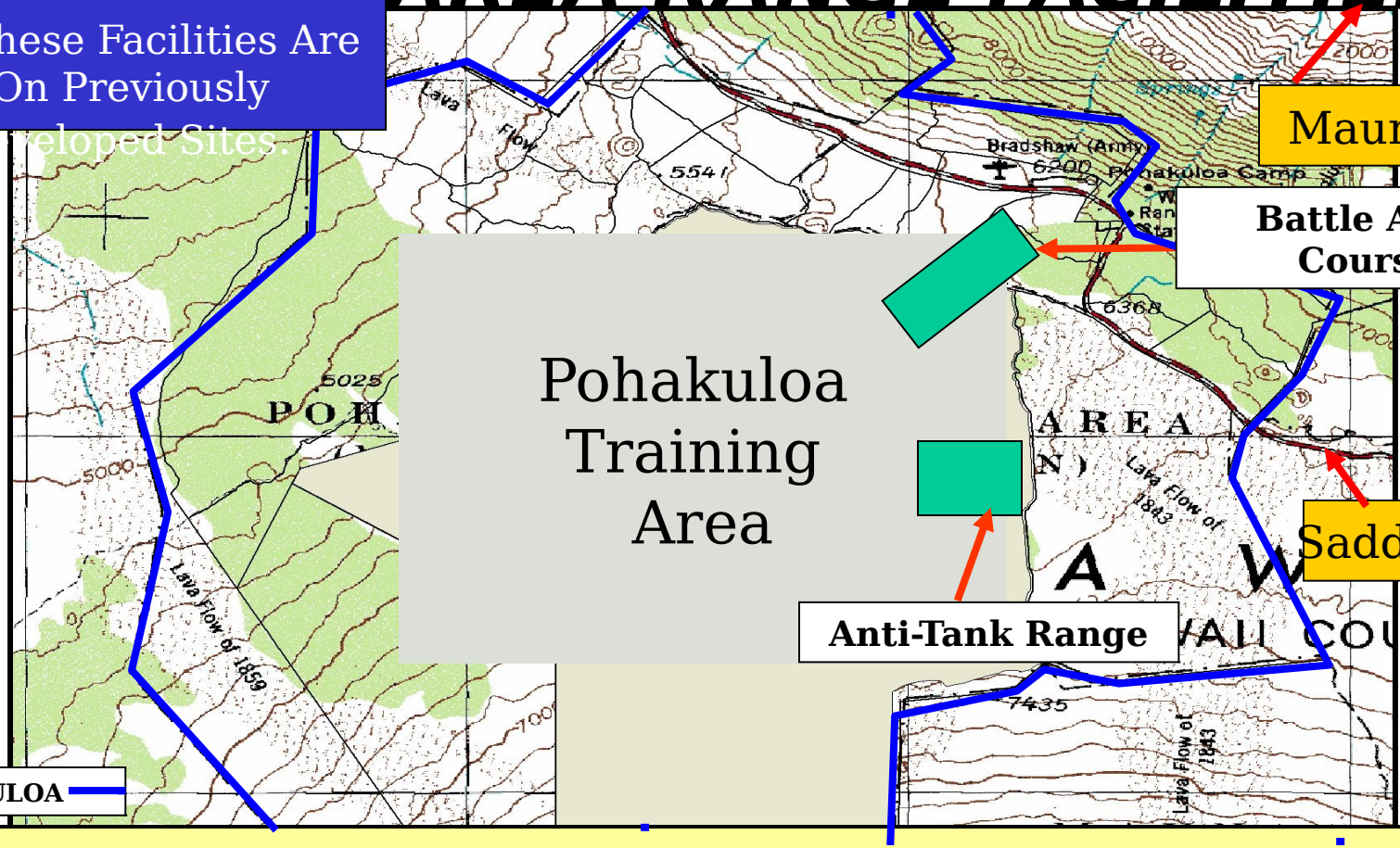



**SCOPE:**

- **PURCHASE MANEUVER TRAINING AREA FOR TACTICAL OPERATIONAL TRAINING WITH VEHICLES FOR**
- **PROVIDE OPPORTUNITY TO PRACTICE SHAPING AND DECISIVE OPERATIONS**
- **SEPARATES MILITARY MANEUVER TRAFFIC FROM CIVILIAN AREAS**

# PROPOSAL: DEVELOP POHAKULOA TRAINING AREA RANGE FACILITIES

All These Facilities Are On Previously Developed Sites.




**SCOPE:**

**BATTLE AREA COURSE:**

- **MANEUVER LIVE FIRE COURSE FROM PLATOON THROUGH BATTALION FOR TROOP WITH VEHICLES**
- **ALSO SUPPORTS OTHER ORGANIZATIONS, SUCH AS AVIATION AND ARTILLERY**

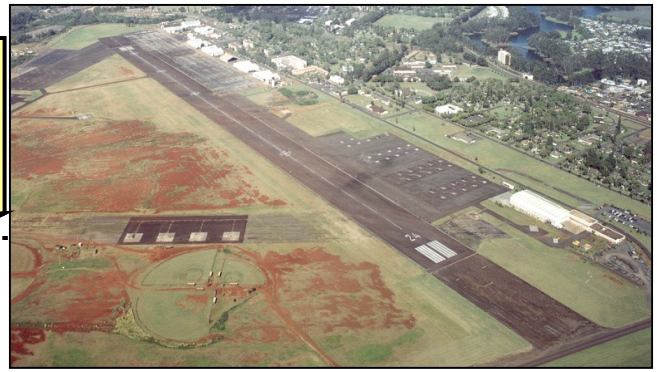
**ANTI-TANK RANGE:**

- **INDIVIDUAL TO COMPANY RANGE**
- **RANGE FOR MOUNTED AND DISMOUNTED ANTI-ARMOR WEAPONS**

# PROPOSAL: IMPROVEMENTS TO BASE SUPPORT INFRASTRUCTURE

**SCOPE:**

- **RENOVATE OF AIRCRAFT PARKING AREA**



## Wheeler Army Airfield (Schofield)

Upgrade runway, parking and turn-around apron for C-130 aircraft operations.

**SCOPE:**

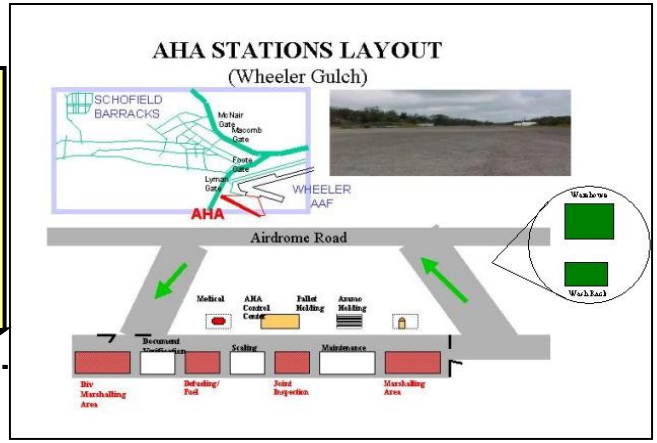
- **UPGRADE AIRFIELD TO SUPPORT C17 AIRCRAFT**

## Bradshaw Army Airfield (Pohakuloa)

Repair runway to allow unlimited C17 and develop parking and turn-around aprons. Visual Flight Rules (VFR) capable.

**SCOPE:**

- **RENOVATE STAGING AREA**
- **CONSTRUCT APPROXIMATELY THREE BUILDINGS**




## Multiple Deployment Facility (Wheeler Army Airfield)

Facility consists of Unit Marshalling Area, Transportation,Inspection Point, Scale House, Vehicle Maintenance

# PROPOSAL: IMPROVEMENTS TO BASE SUPPORT INFRASTRUCTURE

**SCOPE:**

**• ADD ONE SECTION TO A FACILITY**

## Joint Mobility Center (Hickam)

US Army portion is to add the Rigger Facility to an already programmed facility on Hickam.

**SCOPE:**

**• CONSTRUCT THREE TACTICAL VEHICLE WASH FACILITIES**

## Tactical Vehicle Wash Facilities

Provides for 3 Vehicle Wash Facilities at Schofield, Kahuku and on the Big Island

**SCOPE:**

**• CONSTRUCT AMMUNITION STORAGE IGLOOS**

## Ammunition Storage (Pohakuloa)

Provides 3 additional ammunition storage igloos at
Pohakuloa Training Area in the current storage area

# PROPOSAL: IMPROVEMENTS TO BASE SUPPORT INFRASTRUCTURE

**SCOPE:**

**• SUPPORTS INCREASED USAGE REQUIREMENTS DUE TO INCREASED VEHICLE DENSITIES**

## Fuel Storage (Schofield)

60,000 gallon capacity. Increase to 120,000 gal. cap.

## Barracks (Schofield)

**SCOPE:**

**• IMPROVES THE WELL BEING OF OUR SOLDIERS AND THEIR FAMILY MEMBERS**

Ongoing - Provides 1+1 Unaccompanied Enlisted Personnel Housing for 3,172 Spaces and Company/Battalion/Brigade Headquarters.

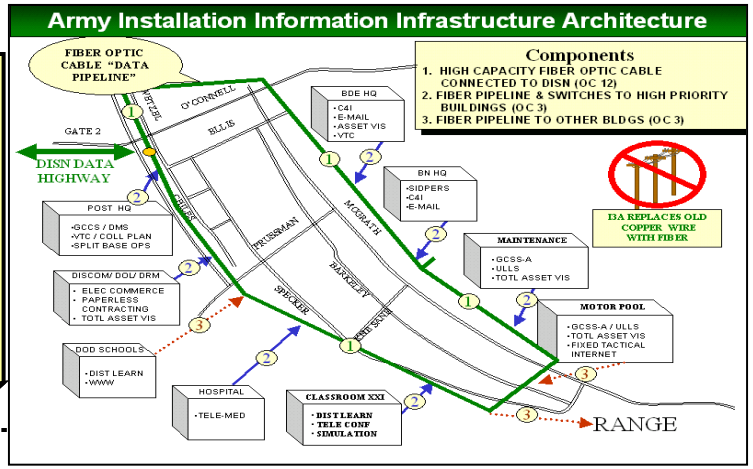
## Family Housing (Schofield)

Ongoing - Provides 70 Dwelling Units

# PROPOSAL: IMPROVEMENTS TO BASE SUPPORT INFRASTRUCTURE

**SCOPE:**

- **SUPPORTS INCREASED USAGE REQUIREMENTS DUE TO GREATER INFORMATION TRANSFER AND NUMBER OF COMPUTERS**

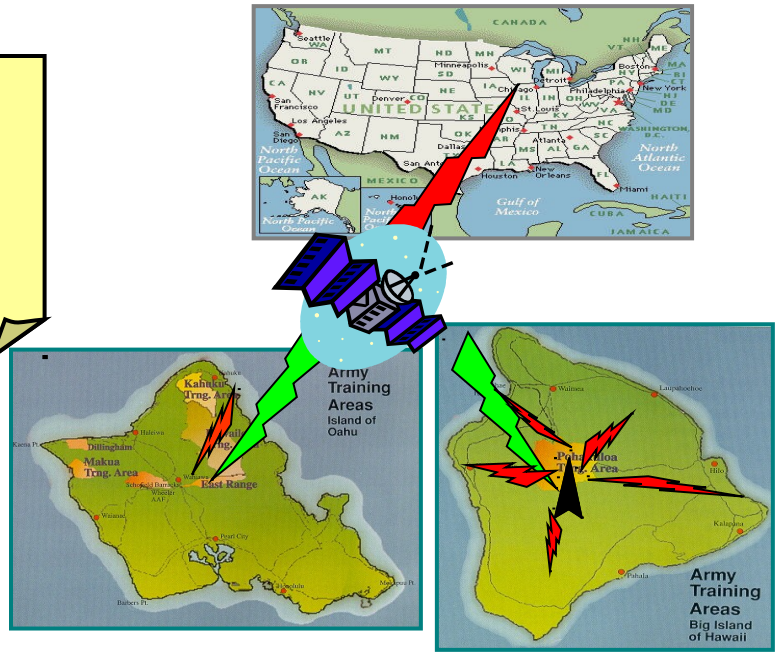



## Infrastructure Architecture

Additional communication links of fiber-optics and cables to facilities and complexes on Oahu and PTA. Includes Information Support Facility.

**SCOPE:**

- **SUPPORTS THE RADIO LINK REQUIREMENT BETWEEN THE NEW VEHICLES AND THE SIMULATORS OR COMMAND**

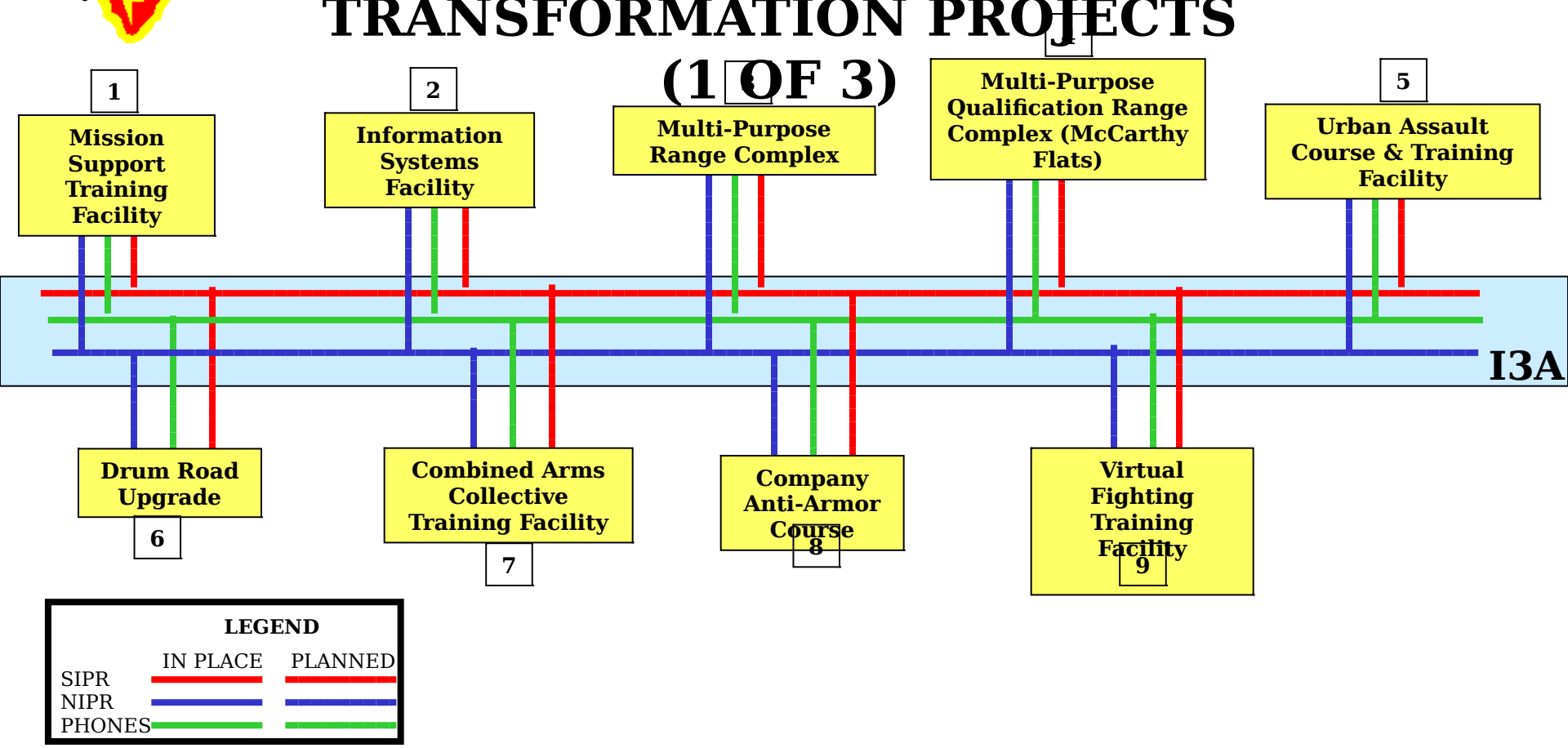



## Fixed Tactical Internet (Wireless)

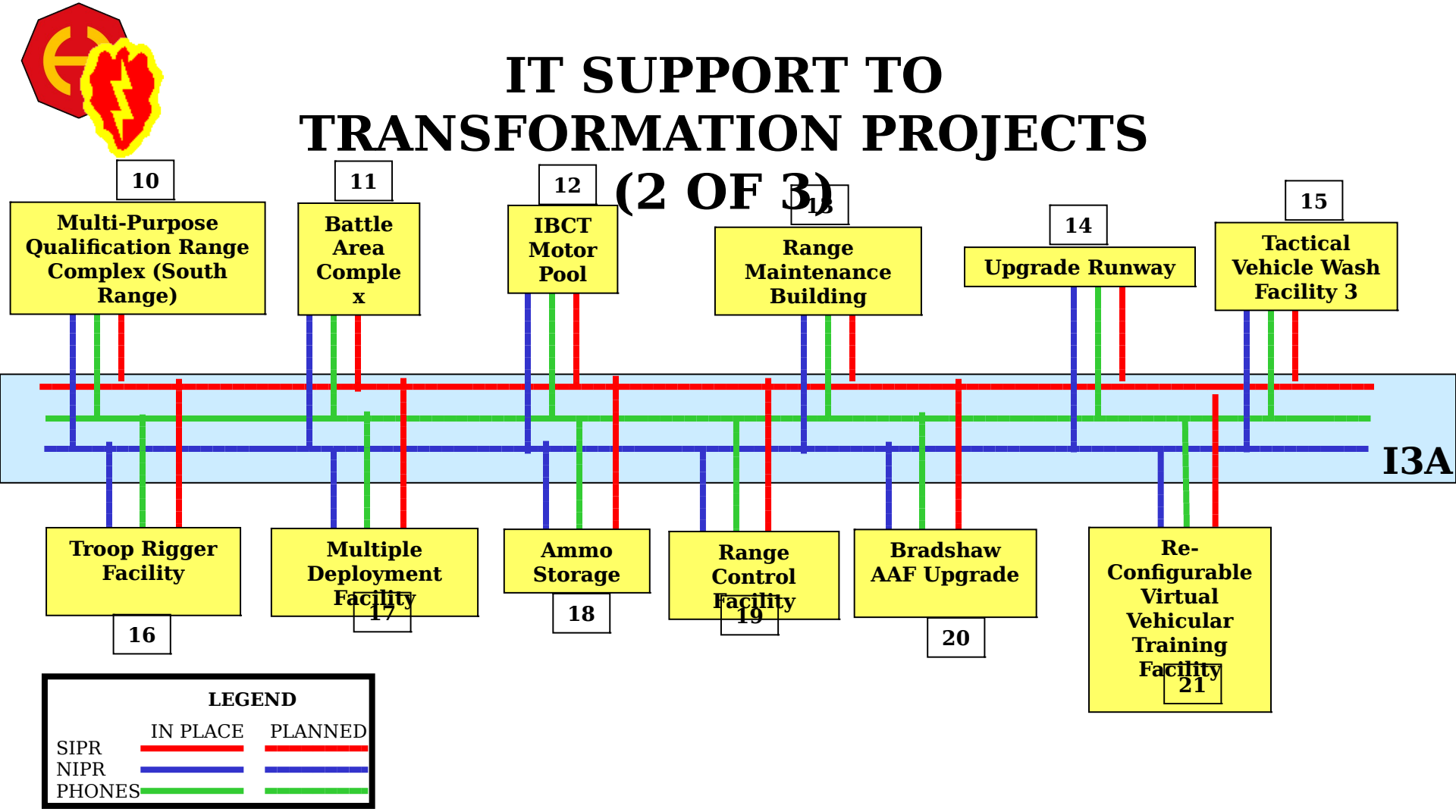
Tactical Communication Infrastructure (antennas, hardware, software, cables) at homestation enabling units to train using digitized equipment without the need for signal assets.

# Installation Information Infrastructure Architecture (I3A)

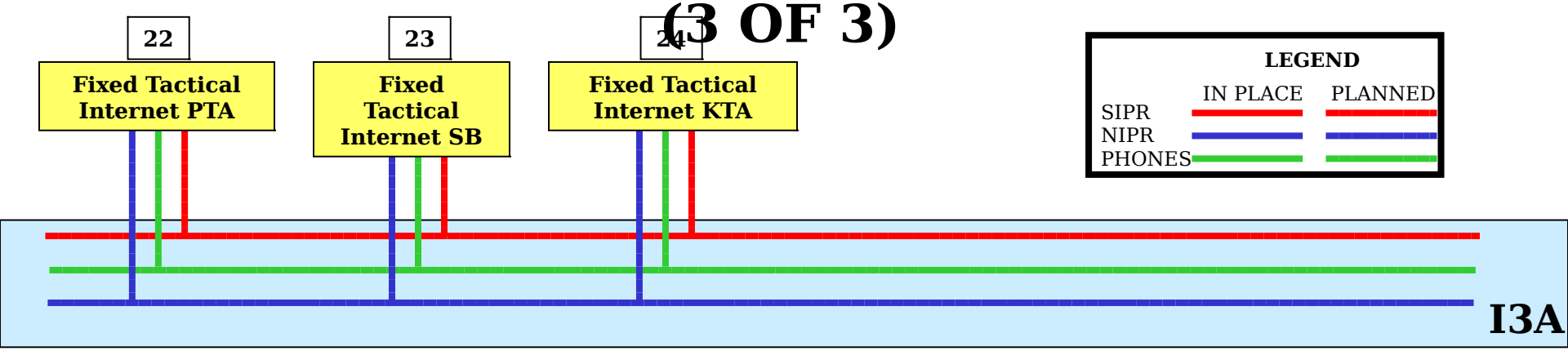
# IT SUPPORT TO TRANSFORMATION PROJECTS (1 OF 3)



# IT SUPPORT TO TRANSFORMATION PROJECTS (2 OF 3)



# IT SUPPORT TO TRANSFORMATION PROJECTS (3 OF 3)

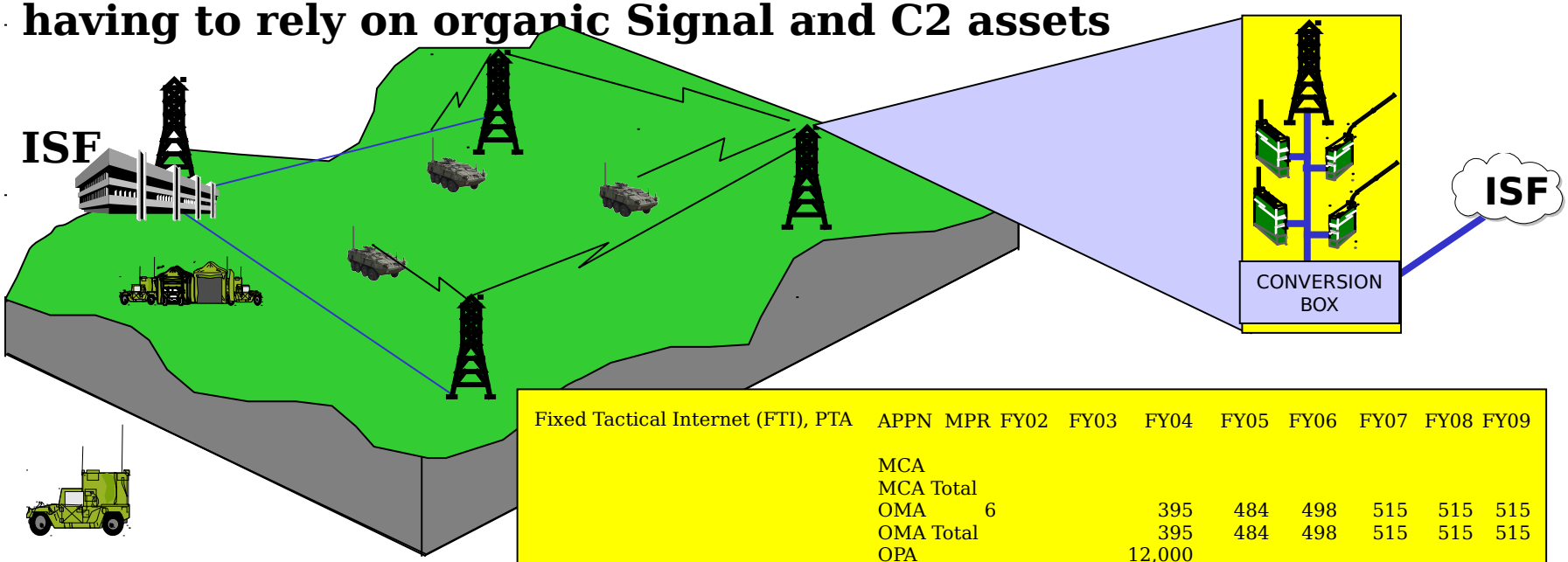



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Installation Information Infrastructure Architecture (I3A) - Oahu | APPN | MPR | FY02 | FY03 | FY04 | FY05 | FY06 | FY07 | FY08 | FY09 |
| | MCA | | 451 | 451 | | | | | | |
| | MCA Total | | 451 | 451 | | | | | | |
| | OMA | | 1,094 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| | OMA Total | | 1,094 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| | OPA | | | 23,556 | | | | | | |
| | OPA Total | | | 23,556 | | | | | | |
| Installation Information Infrastructure Architecture (I3A) – Oahu Total | | | 1,545 | 25,007 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Installation Information Infrastructure Architecture (I3A) - PTA | APPN | MPR | FY02 | FY03 | FY04 | FY05 | FY06 | FY07 | FY08 | FY09 |
| | MCA | | | | | | | | | |
| | MCA Total | | | | | | | | | |
| | OMA | | | | 200 | 200 | 200 | 200 | 200 | 200 |
| | OMA Total | | | | 200 | 200 | 200 | 200 | 200 | 200 |
| | OPA | | | | 35,181 | | | | | |
| | OPA Total | | | | 35,181 | | | | | |
| Installation Information Infrastructure Architecture (I3A) – PTA Total | | | | | 35,381 | | | | | |
| TOTAL | | | 1,545 | 25,007 | 36,381 | 1,200 | 1,200 | 1,200 | 1,200 | 1,200 |

# Fixed Tactical Internet (FTI)

# FIXED TACTICAL INTERNET (FTI)

**FTI provides digital communications support for multiple unit level PLT/CO/BN drills/lane training/STX; Bn CFX events without having to rely on organic Signal and C2 assets**



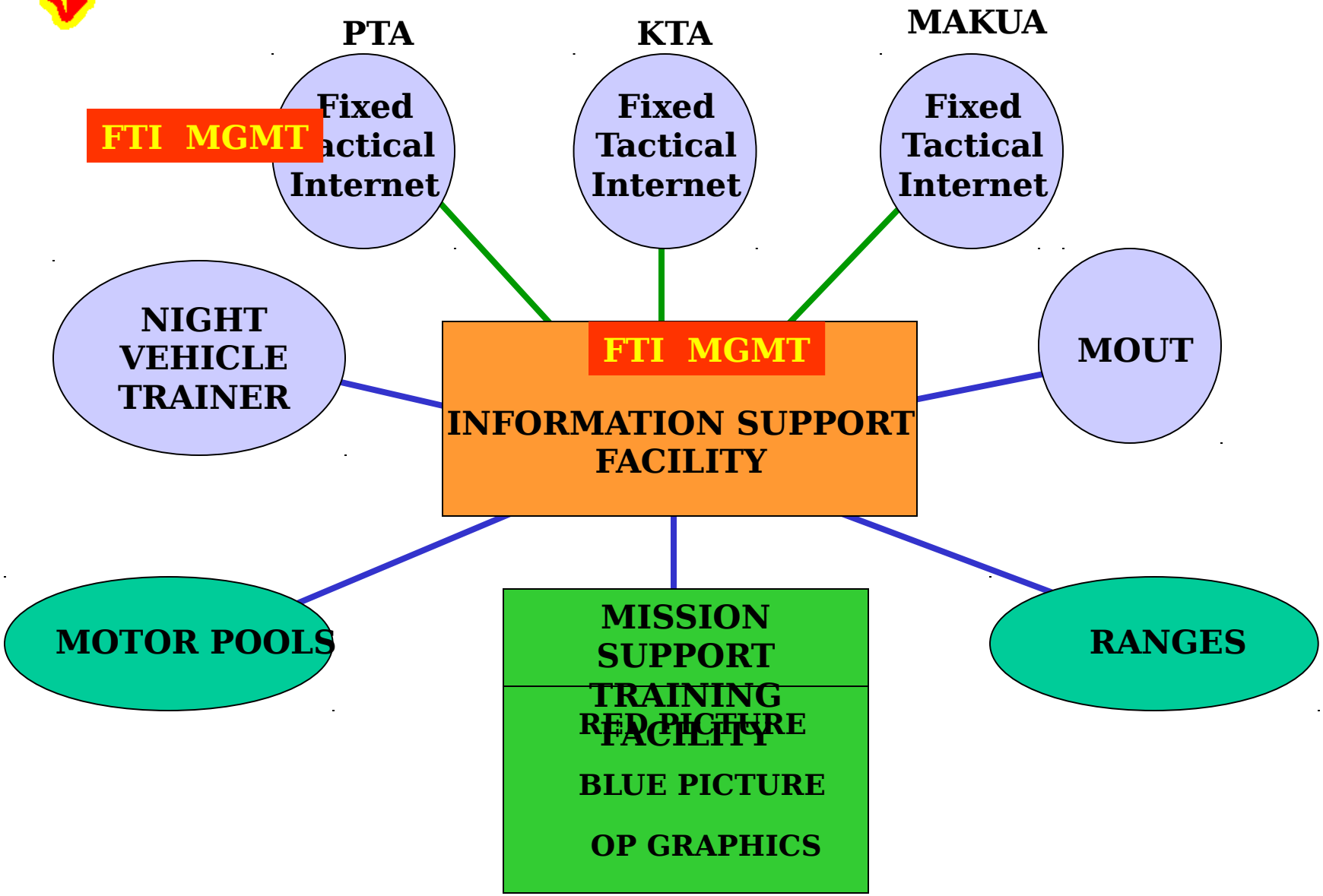

**Network Operations Center – Vehicle (NOC-V)**

| Fixed Tactical Internet (FTI), PTA | APPN | MPR | FY02 | FY03 | FY04 | FY05 | FY06 | FY07 | FY08 | FY09 |
|---|---|---|---|---|---|---|---|---|---|---|
| | MCA | | | | | | | | | |
| | MCA Total | | | | | | | | | |
| | OMA | 6 | | | 395 | 484 | 498 | 515 | 515 | 515 |
| | OMA Total | | | | 395 | 484 | 498 | 515 | 515 | 515 |
| | OPA | | | | 12,000 | | | | | |
| | OPA Total | | | | 12,000 | | | | | |
| Fixed Tactical Internet (FTI), PTA Total | | | | | 12,395 | 484 | 498 | 515 | 515 | 515 |

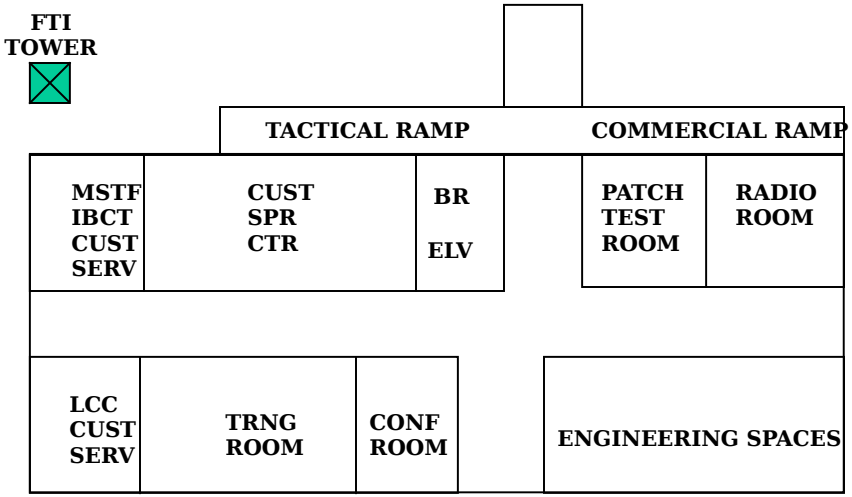
| Fixed Tactical Internet (FTI), Oahu | APPN | MPR | FY02 | FY03 | FY04 | FY05 | FY06 | FY07 | FY08 | FY09 |
|---|---|---|---|---|---|---|---|---|---|---|
| | MCA | | | | | | | | | |
| | MCA Total | | | | | | | | | |
| | OMA | 8 | 200 | 200 | 527 | 620 | 639 | 661 | 661 | 661 |
| | OMA Total | | 200 | 200 | 527 | 620 | 639 | 661 | 661 | 661 |
| | OPA | | | | 12,000 | | | | | |
| | OPA Total | | | | 12,000 | | | | | |
| Fixed Tactical Internet (FTI), PTA, Oahu | | | 200 | 200 | 12,527 | 620 | 639 | 661 | 661 | 661 |
| TOTAL | | | 200 | 200 | 24,922 | 1,104 | 1,137 | 1,176 | 1,176 | 1,176 |

# Information Support Facility (ISF

# An Integrated Network

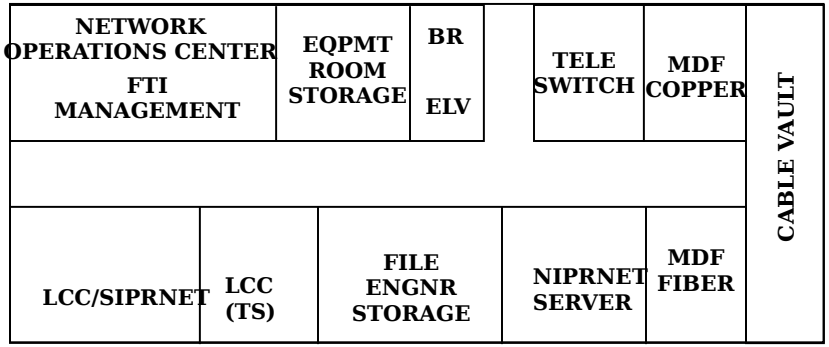


# Information Support Facility (ISF) Proposed




GROUND FLOOR

(NOT TO SCALE)

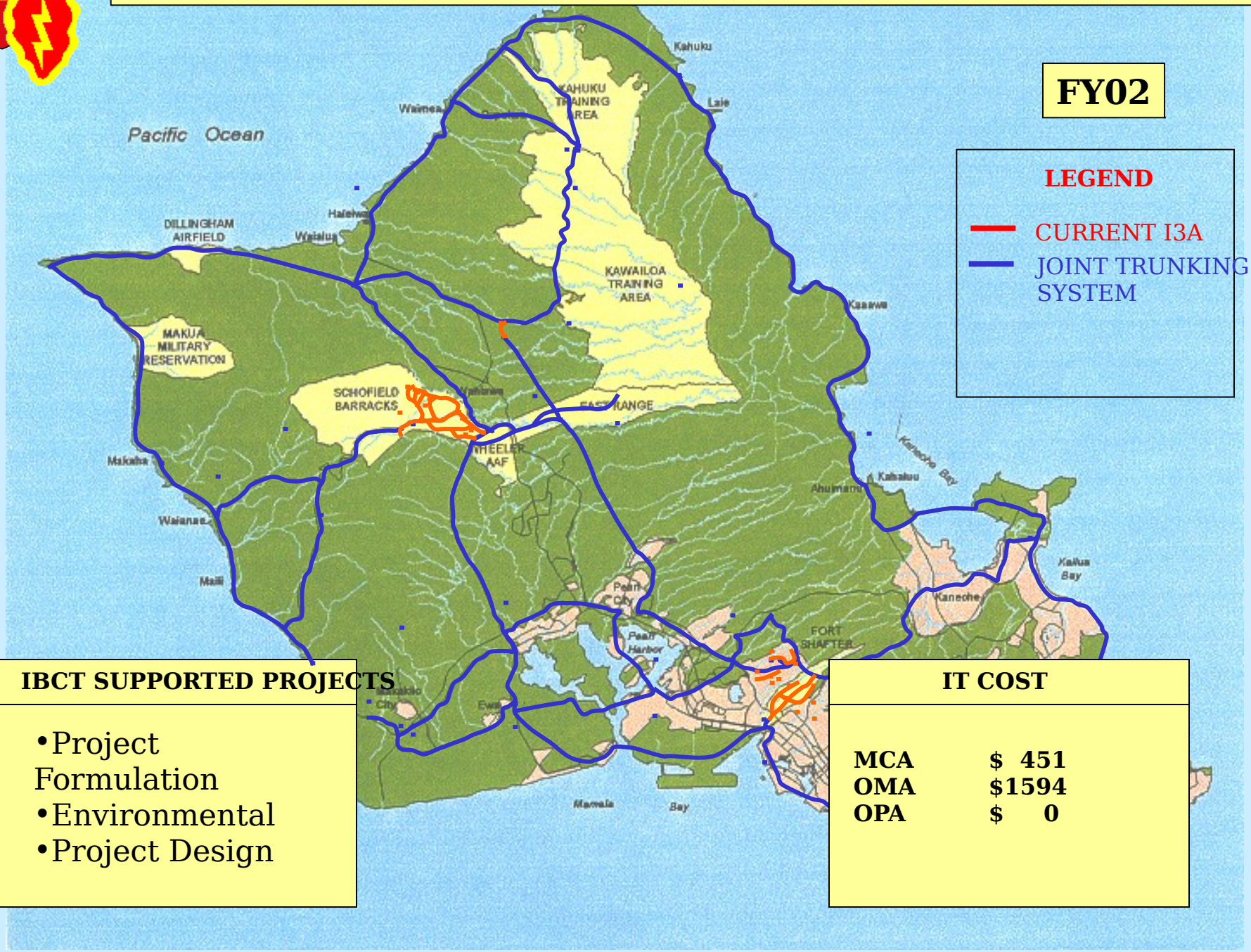



BASEMENT

(NOT TO SCALE)

| Information Support Facility (ISF), SB | APPN MPR | FY02 | FY03 | FY04 | FY05 | FY06 | FY07 | FY08 | FY09 |
|---|---|---|---|---|---|---|---|---|---|
| | MCA | | 23,320 | | | | | | |
| | MCA Total | | 23,320 | | | | | | |
| | OMA | 300 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| | OMA Total | 300 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| | OPA | | 3,738 | | | | | | |
| | OPA Total | | 3,738 | | | | | | |
| Information Support Facility (ISF), SB Total | | 300 | 27,558 | 500 | 500 | 500 | 500 | 500 | 500 |
| TOTAL | | 300 | 27,338 | 500 | 500 | 500 | 500 | 500 | 500 |

# IT PROJECTS IN SUPPORT OF TRANSFORMATION (OAHU)



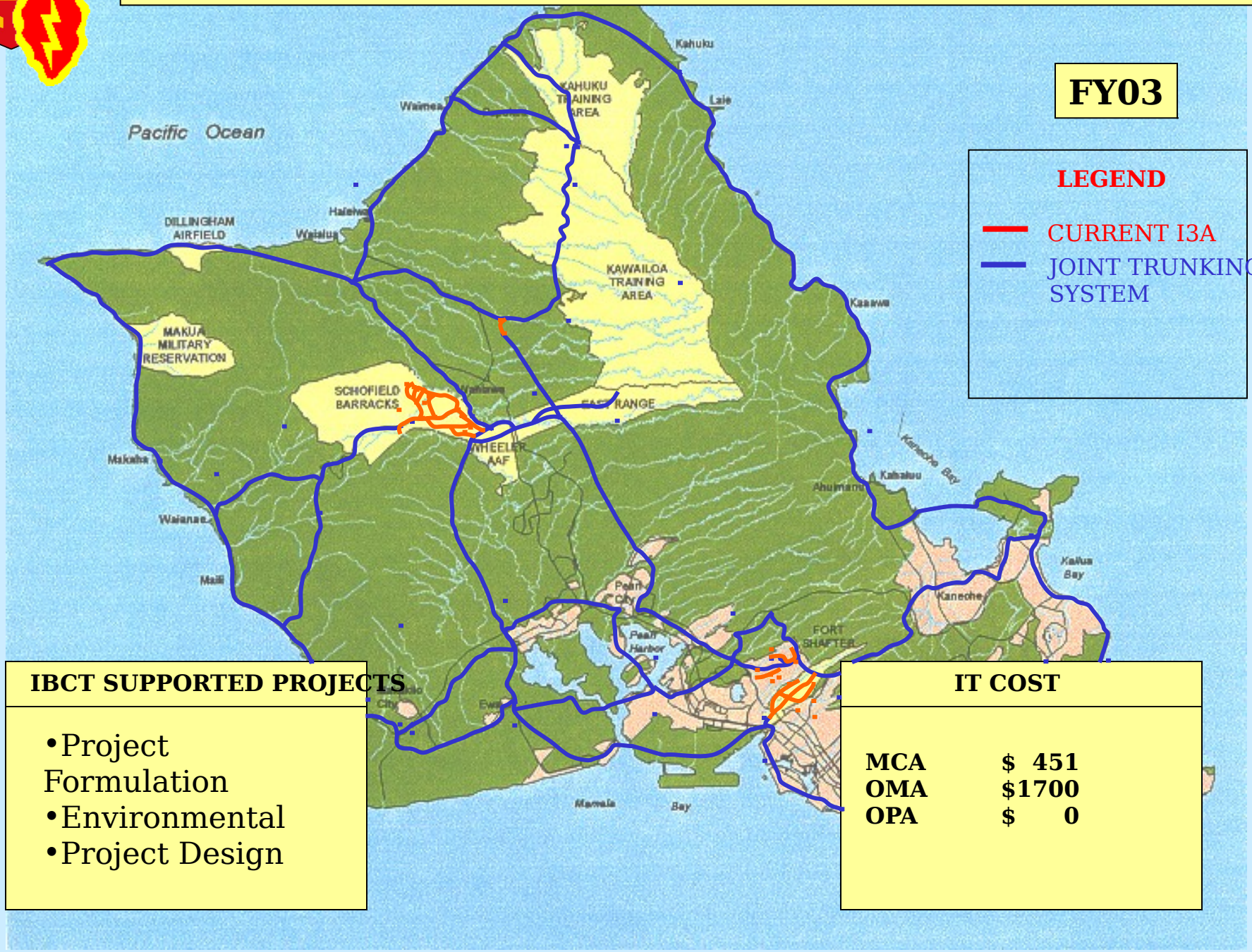

## IBCT SUPPORTED PROJECTS

- Project Formulation
- Environmental
- Project Design

## IT COST

| | |
|---|---|
| **MCA** | **$ 451** |
| **OMA** | **$1594** |
| **OPA** | **$ 0** |

# IT PROJECTS IN SUPPORT OF TRANSFORMATION (OAHU)




**FY03**

**LEGEND**

- CURRENT I3A
- JOINT TRUNKING SYSTEM

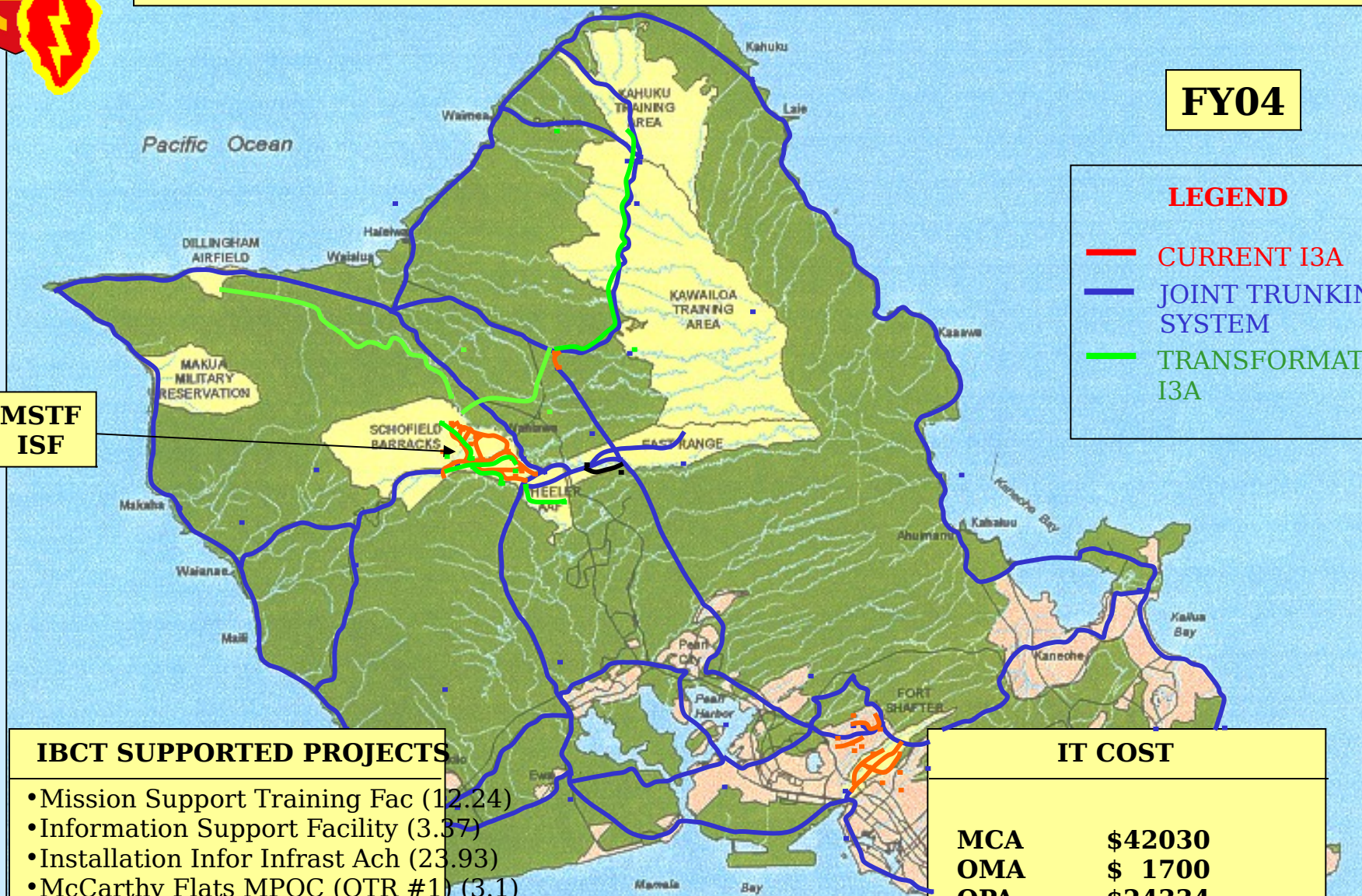
**IBCT SUPPORTED PROJECTS**

- Project Formulation
- Environmental
- Project Design

**IT COST**

| | |
|---|---|
| **MCA** | **$ 451** |
| **OMA** | **$1700** |
| **OPA** | **$ 0** |

# IT PROJECTS IN SUPPORT OF TRANSFORMATION (OAHU)




**FY04**

**LEGEND**

- CURRENT I3A
- JOINT TRUNKING SYSTEM
- TRANSFORMATION I3A

**MSTF ISF**

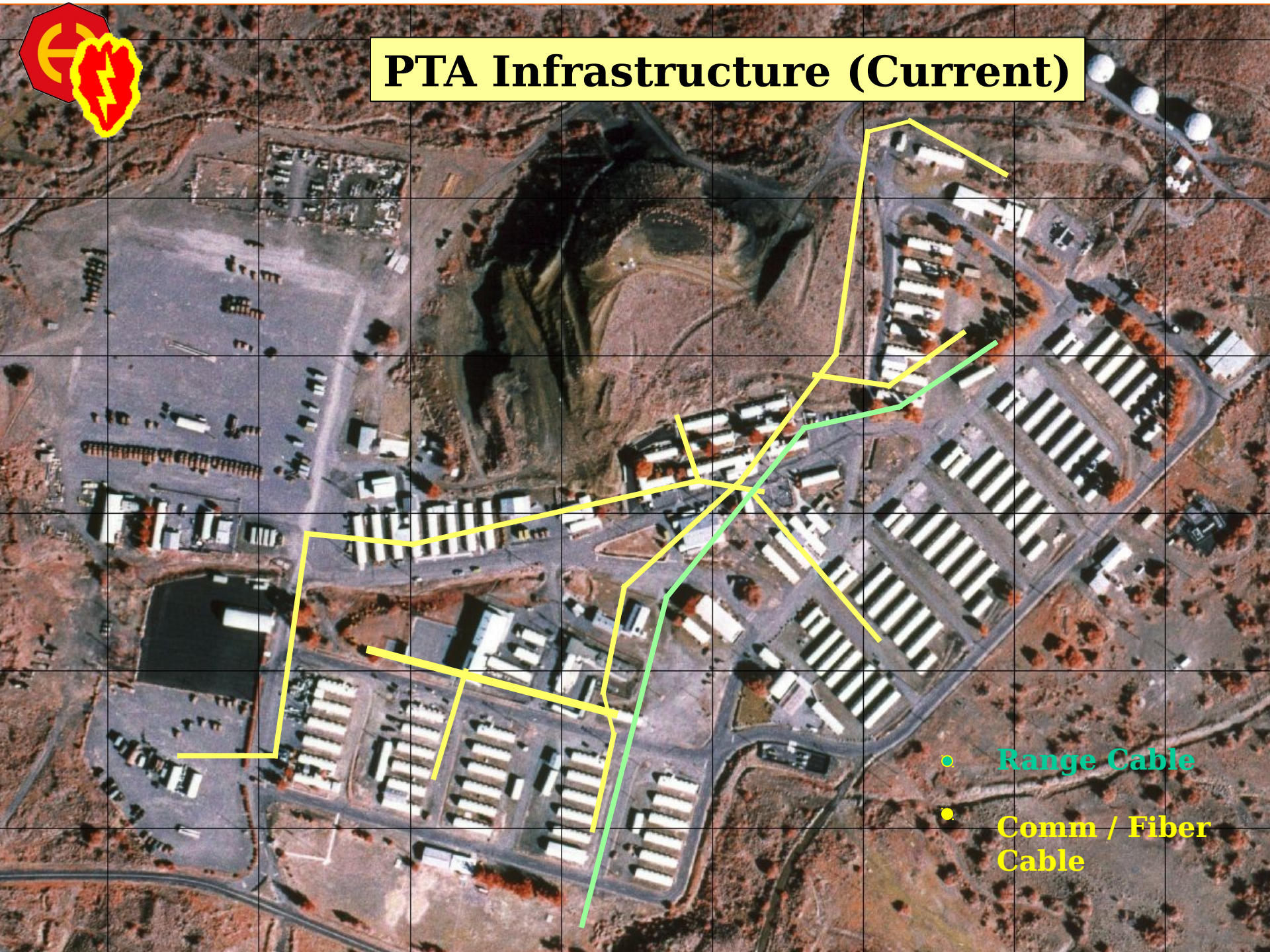
## IBCT SUPPORTED PROJECTS

- Mission Support Training Fac (12.24)
- Information Support Facility (3.37)
- Installation Infor Infrast Ach (23.93)
- McCarthy Flats MPQC (QTR #1) (3.1)
- MOUT (Urban Assault Course) (3.4)
- Virtual Fighting Training Facility (2.25)
- CACTF (Shoot House) (7.13)
- Drum Road (10.95)

## IT COST

| | |
|---|---|
| **MCA** | **$42030** |
| **OMA** | **$ 1700** |
| **OPA** | **$24334** |

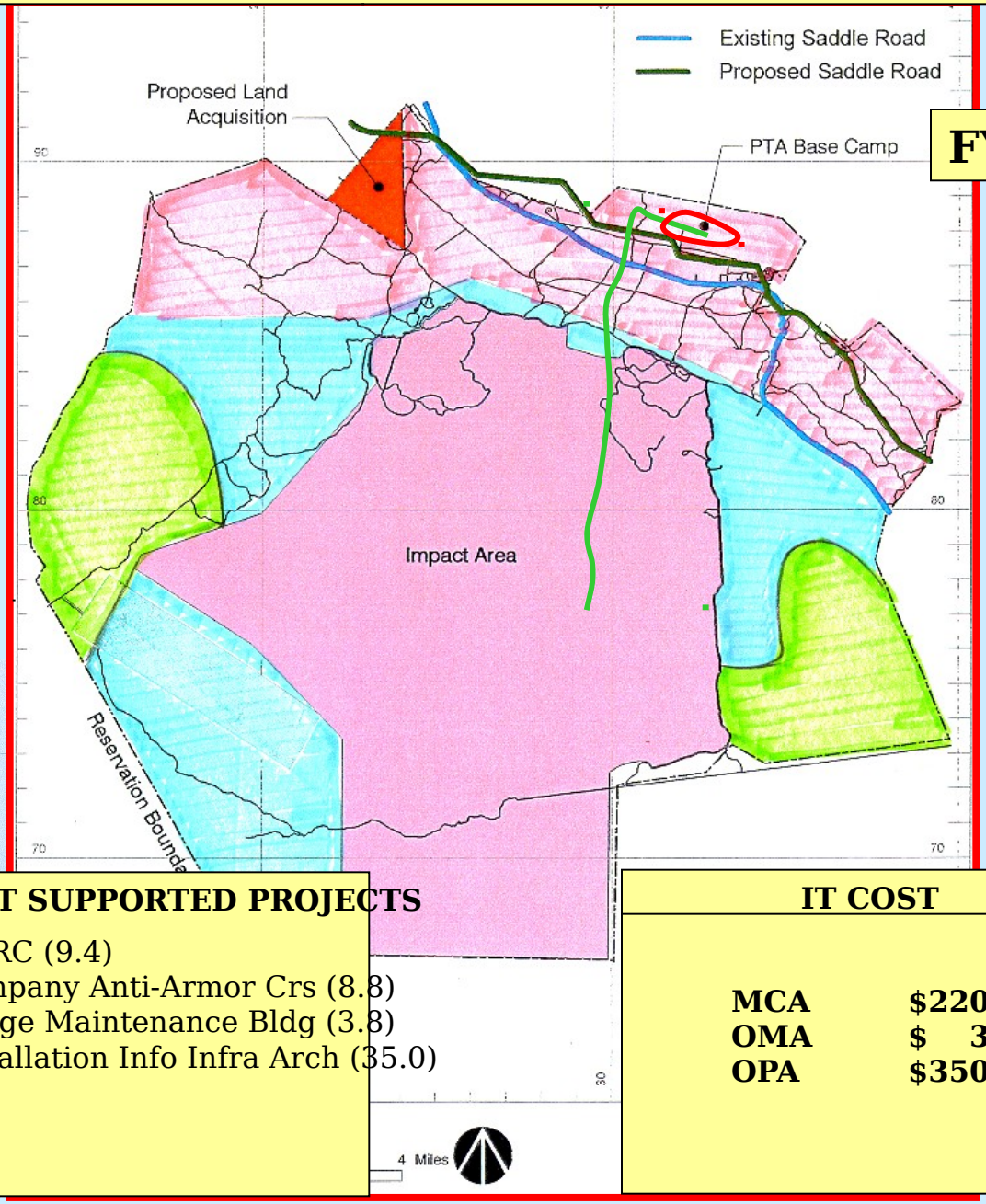
# PTA Infrastructure (Current)



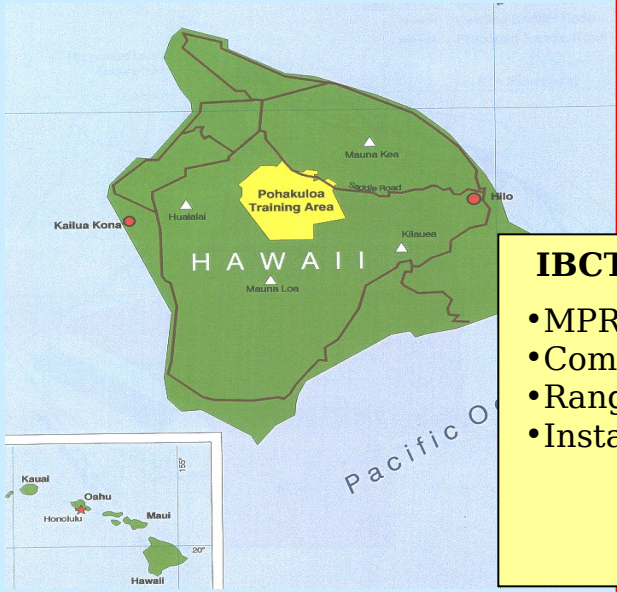
# IT PROJECTS IN SUPPORT OF TRANSFORMATION (PTA)

**LEGEND**

- CURRENT I3A
- JOINT TRUNKING SYSTEM
- TRANSFORMATION I3A




**FY04**



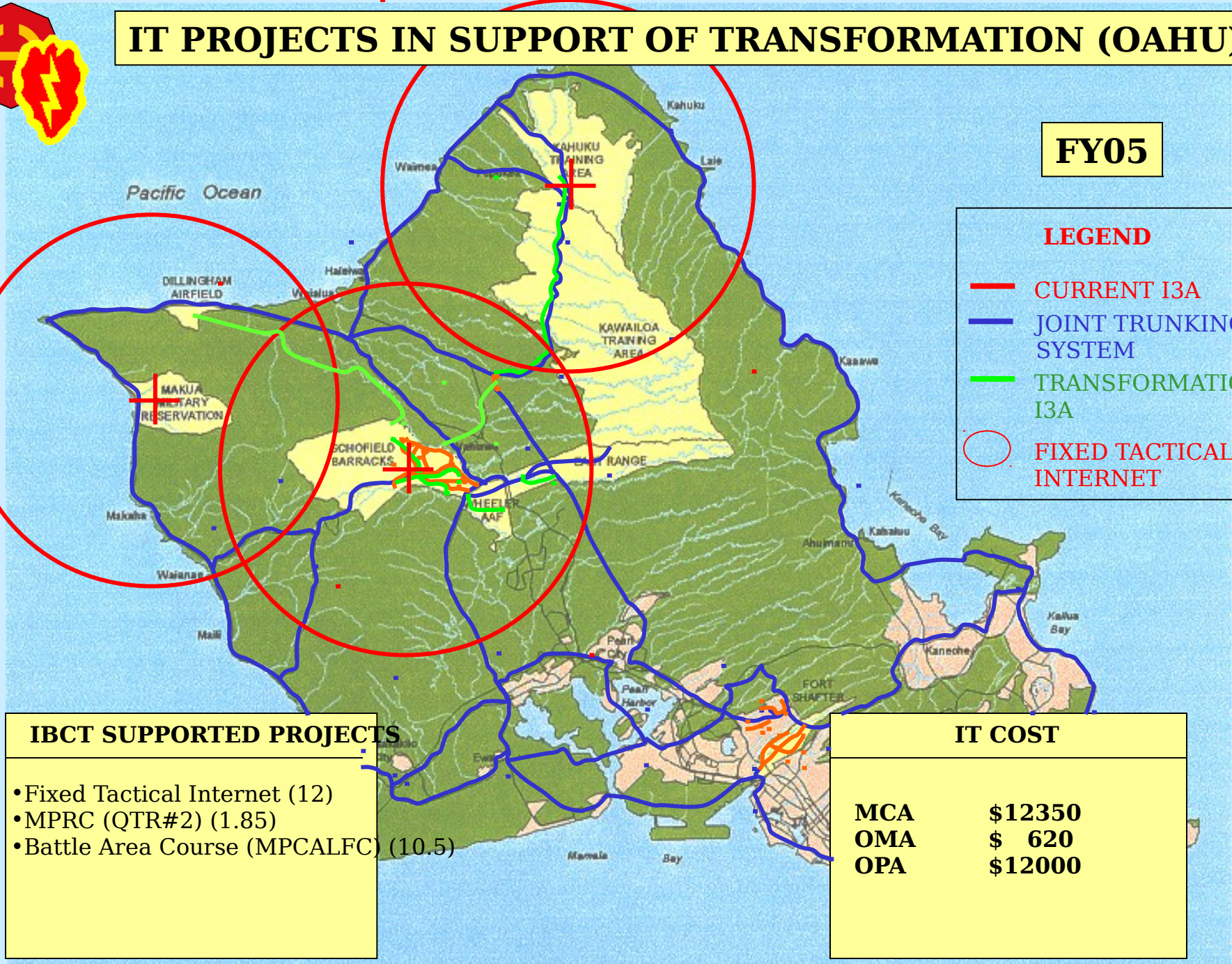

## IBCT SUPPORTED PROJECTS

- MPRC (9.4)
- Company Anti-Armor Crs (8.8)
- Range Maintenance Bldg (3.8)
- Installation Info Infra Arch (35.0)

## IT COST

| | |
|---|---|
| **MCA** | **$22000** |
| **OMA** | **$ 395** |
| **OPA** | **$35000** |

# IT PROJECTS IN SUPPORT OF TRANSFORMATION (OAHU)




## IBCT SUPPORTED PROJECTS

- Fixed Tactical Internet (12)
- MPRC (QTR#2) (1.85)
- Battle Area Course (MPCALFC) (10.5)

## IT COST

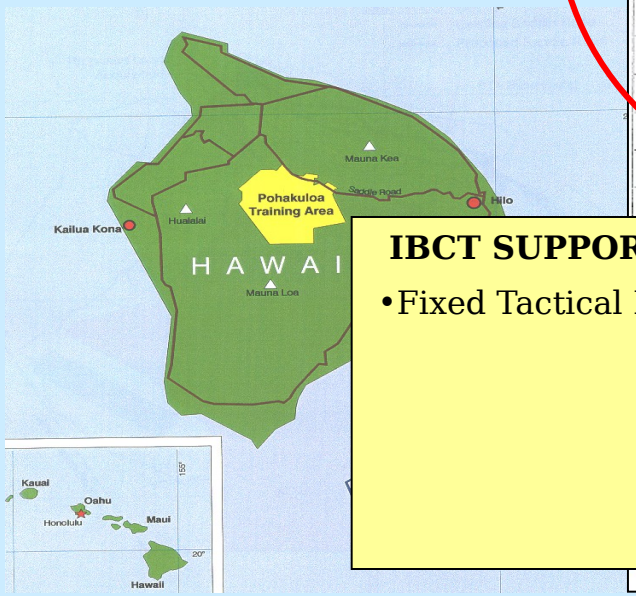
| | |
|---|---|
| **MCA** | **$12350** |
| **OMA** | **$ 620** |
| **OPA** | **$12000** |

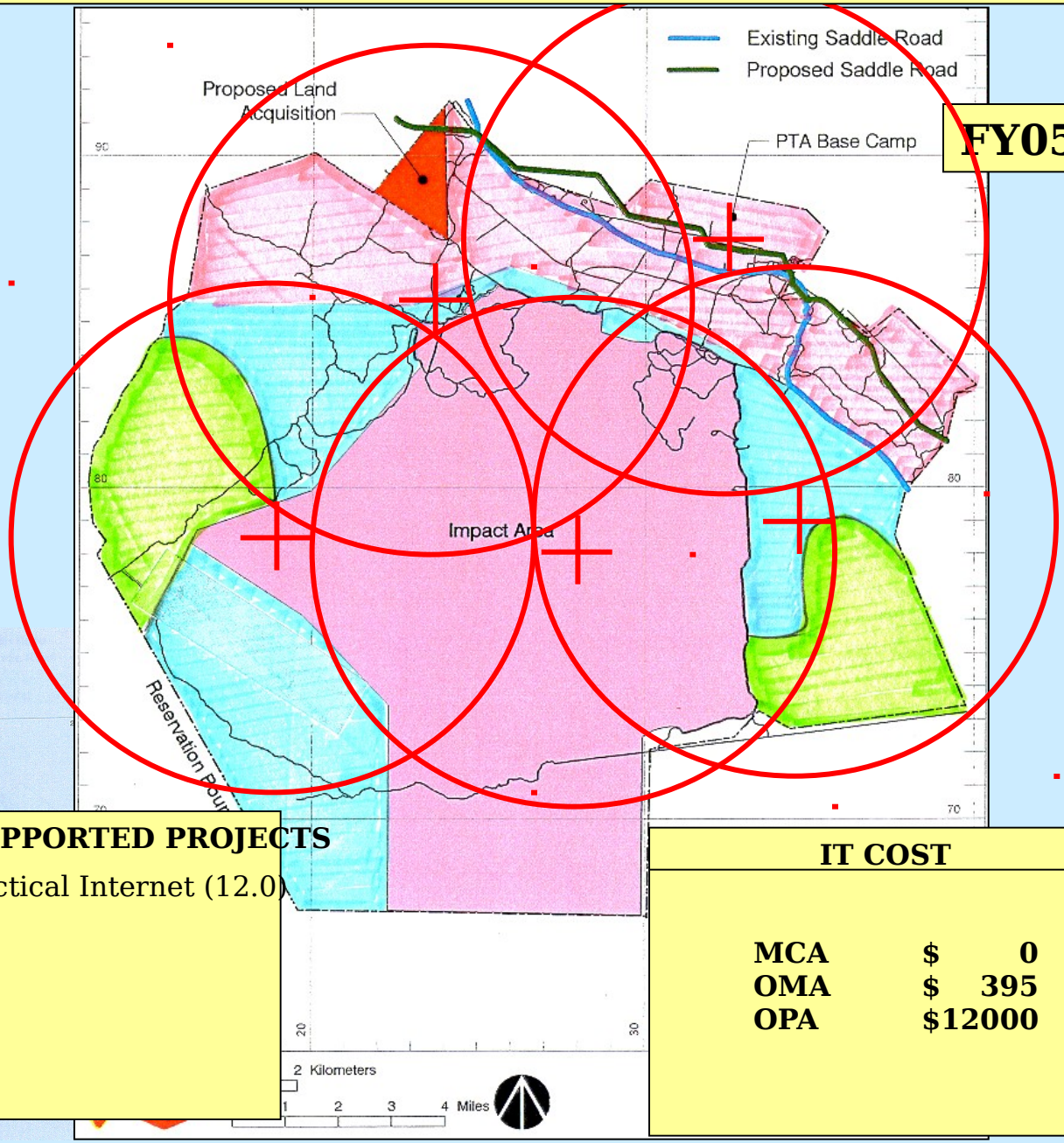
# IT PROJECTS IN SUPPORT OF TRANSFORMATION (PTA)

**FY05**

**LEGEND**

- CURRENT I3A
- JOINT TRUNKING SYSTEM
- TRANSFORMATION I3A
- FIXED TACTICAL INTERNET



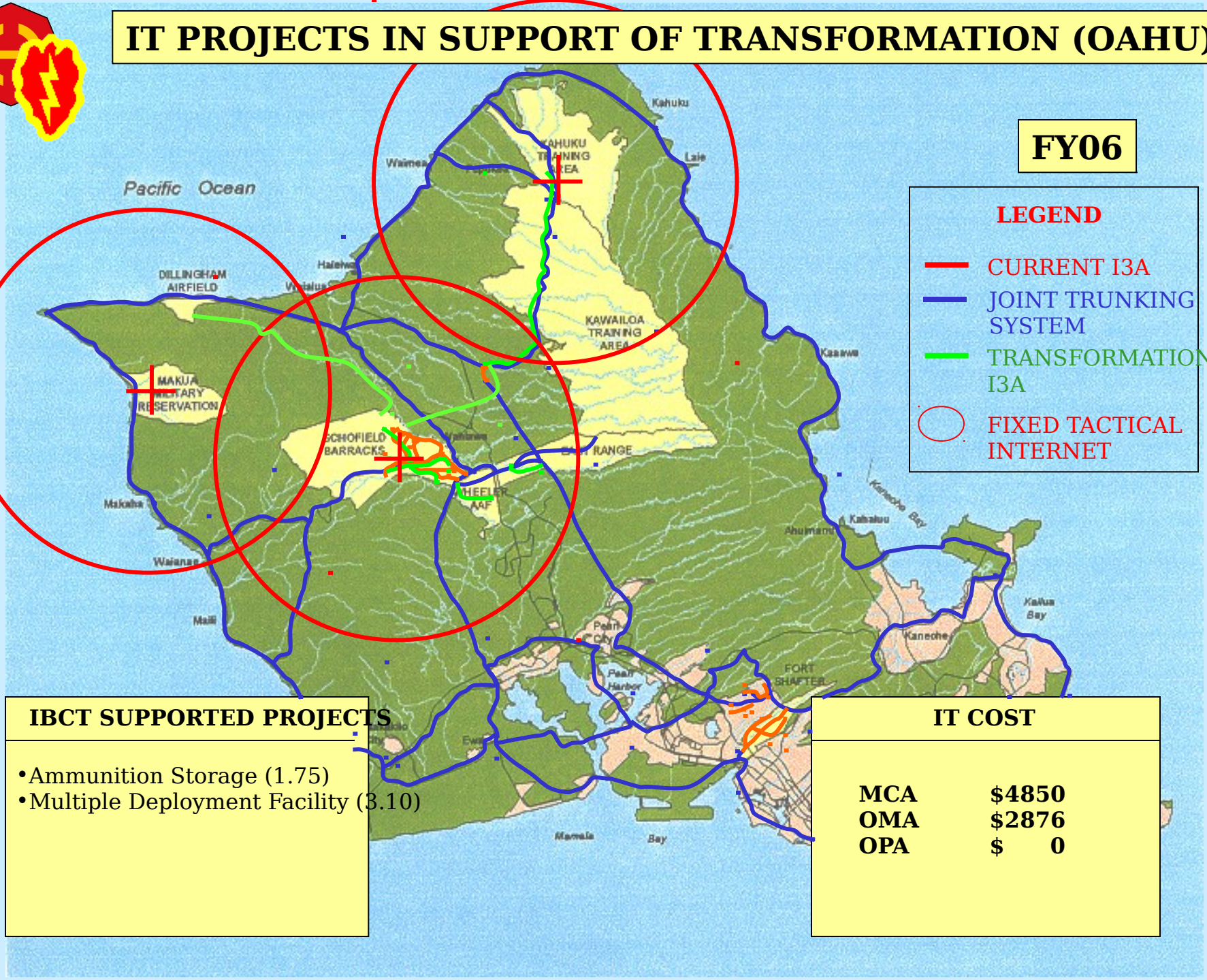

**IBCT SUPPORTED PROJECTS**

- Fixed Tactical Internet (12.0)

**IT COST**

| | |
|---|---|
| **MCA** | **$ 0** |
| **OMA** | **$ 395** |
| **OPA** | **$12000** |

# IT PROJECTS IN SUPPORT OF TRANSFORMATION (OAHU)



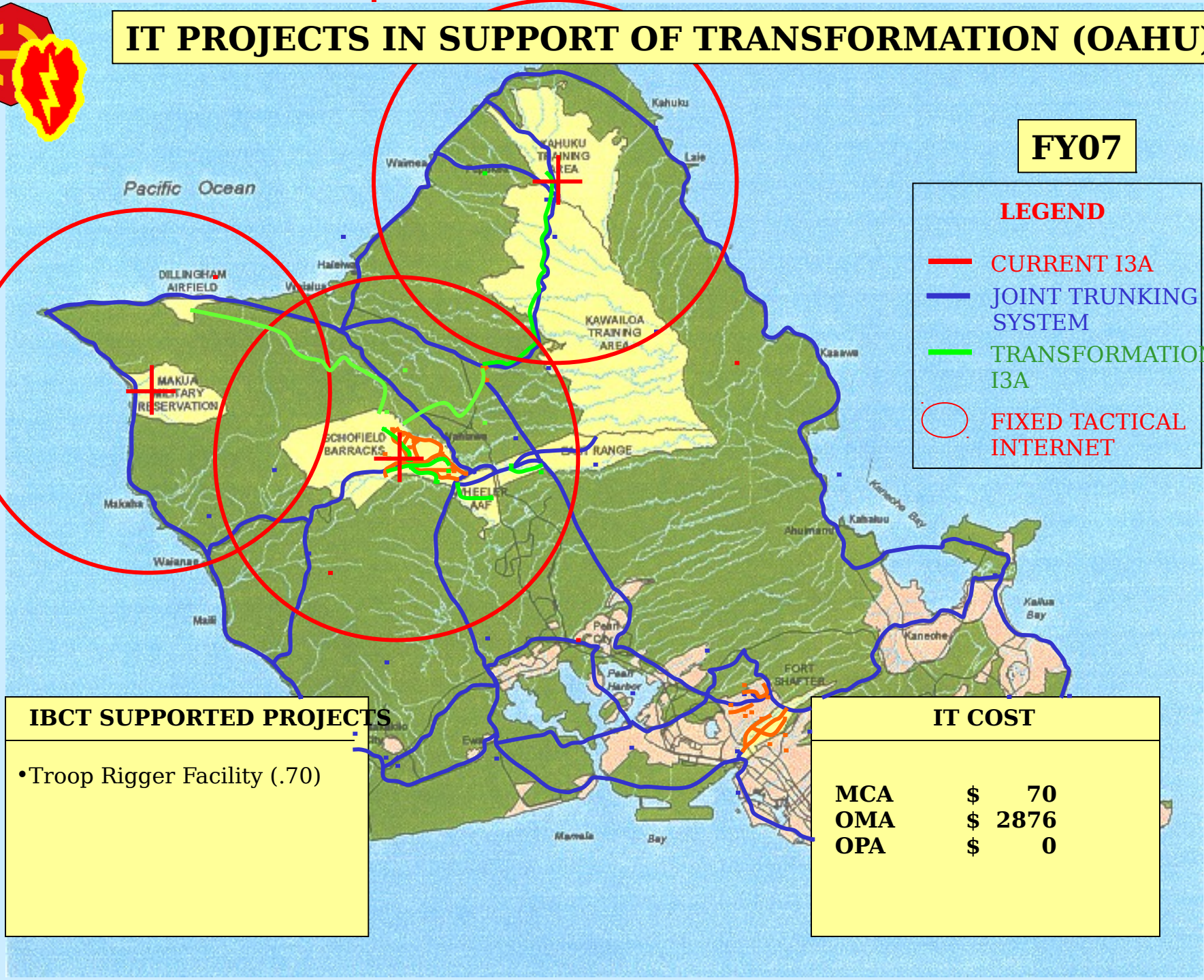

## IBCT SUPPORTED PROJECTS

- Ammunition Storage (1.75)
- Multiple Deployment Facility (3.10)

## IT COST

| | |
|---|---|
| **MCA** | **$4850** |
| **OMA** | **$2876** |
| **OPA** | **$ 0** |

# IT PROJECTS IN SUPPORT OF TRANSFORMATION (OAHU)




**FY07**

**LEGEND**

- CURRENT I3A
- JOINT TRUNKING SYSTEM
- TRANSFORMATION I3A
- FIXED TACTICAL INTERNET

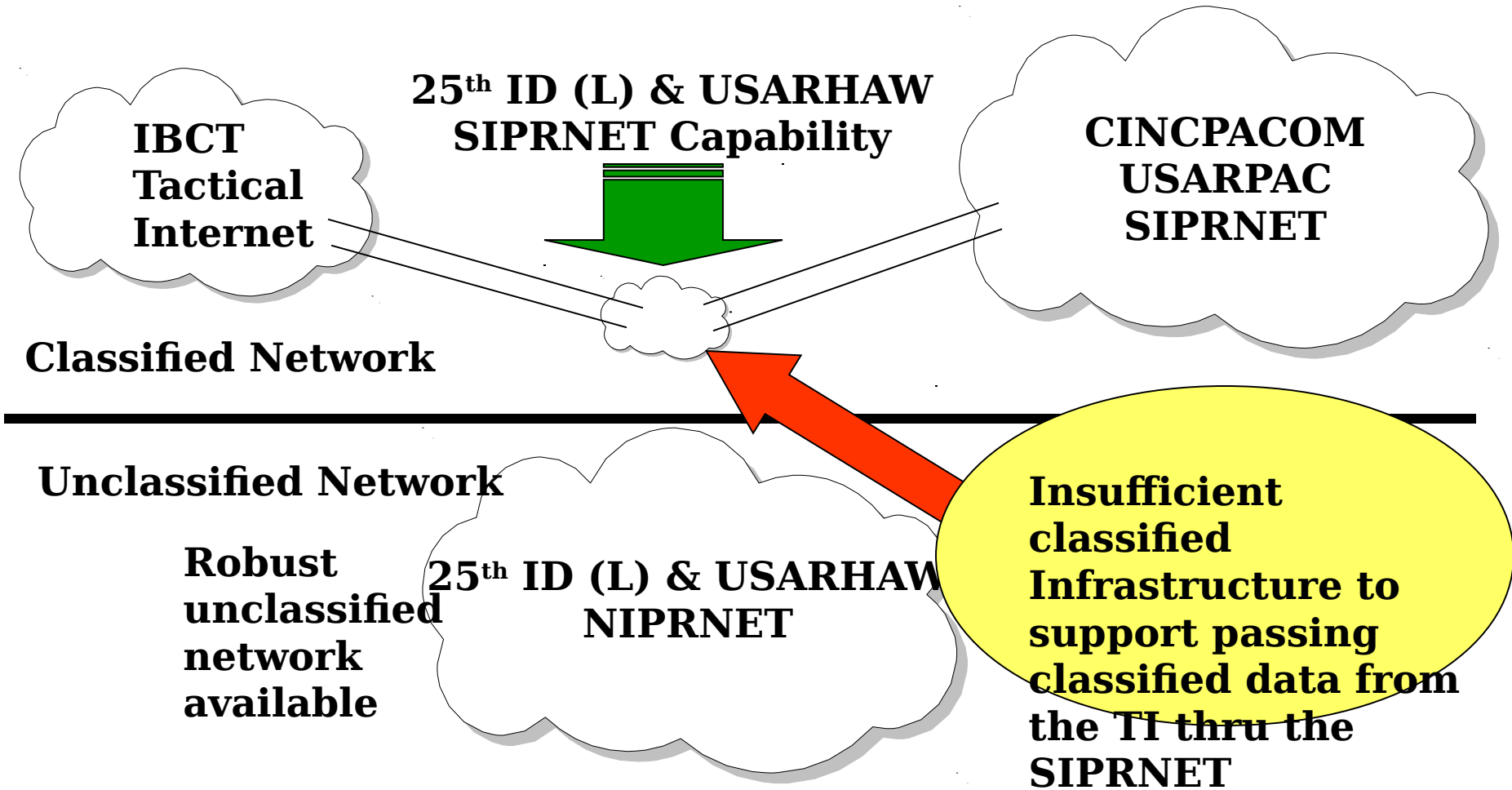
## IBCT SUPPORTED PROJECTS

- Troop Rigger Facility (.70)

## IT COST

| | | |
|---|---|---|
| **MCA** | **$** | **70** |
| **OMA** | **$** | **2876** |
| **OPA** | **$** | **0** |

# SIPRNET Expansion




**FY 04-09 POM URR Submission**

| FY04 | FY05 | FY06 | FY07 | FY08 | FY09 |
|---|---|---|---|---|---|
| 5345 | 4865 | 5385 | 5415 | 4935 | 5455 |

# Challenges

**User requirements not fully defined**

**Fielding of GFE to support FTI Interface requirements**

**Support to Modeling and Simulation efforts**

**Impacts on 3rd Brigade**

**Ensure higher headquarters understands that we are supporting the Transformation of a Division**

# QUESTIONS